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OF
GUJARAT**

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THE RURAL ECONOMY OF GUJARAT

BY

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With a Foreword by

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FOREWORD

IN the various plans of economic development of the country, improvement in agriculture necessarily finds an important place. The emphasis is greater or less according to the point of view adopted by the planners concerned. Irrespective of this, it is obvious that agriculture must continue to be the leading industry and the source of the largest employment to the growing population of this country. That this leading industry of the country should be unremunerative and provide more a way of life than a source of profitable employment to large masses of the people is one of the greatest paradoxes in which we have somehow lived for many years. No development of the country will be possible unless organized determined efforts are made to remove this glaring defect in our economic life and to make agriculture a profitable business as it should be.

In order that all concerned may be able to have a clear grasp of the situation and evolve a correct solution of the problem, it is essential that we should have an intensive and continuous study of our rural problems in different parts of the country. Dr Desai has made a successful attempt in this volume to give a realistic picture of the life in rural Gujarat. Besides utilizing the available official and other literature on the subject, the author has had the advantage of belonging to an agricultural family of one of the districts of Gujarat, of first-hand investigation into some of the problems as well as of personal discussions with leading agriculturists. The last war has had its effect on most aspects of the economic life of the country and Dr Desai has made an attempt to ascertain the effects of the war on the rural economy of Gujarat. The work refers to the four districts which formed British Gujarat till recently, viz Ahmedabad, Broach and Panch Mahals, Kaira and Surat. Recently, however, the boundaries of Gujarat are gradually being extended. The experience and suggestions recorded here will, however, apply in general to the neighbouring areas of Greater Gujarat.

The work was done in the School of Economics and Sociology, Bombay, for the Ph D degree of this University during the years 1941 to 1946. It has since been considerably revised and brought

up to date. In view of the difficulties and heavy cost of publication at the present time it became necessary to reduce the size of the book, as much as possible, by eliminating some statistical tables and other material. But care has been taken to see that nothing of importance which may reduce the intrinsic worth of the book has been omitted. In view of the comprehensive nature of the work and the fresh approach of the author, I feel confident that this volume will prove of considerable use to all interested in agricultural problems in the country in general and to those interested in the development of Gujarat and Kathiawar in particular.

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1 June 1918

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INTRODUCTION

IN view of the varied and divergent climatic conditions and agricultural practices in different parts of India, for a complete grasp of agricultural conditions in the country, regional surveys beginning with a village as the smallest unit of study and ending in the examination of the conditions and problems of different provinces or their components, are essential. When talks of planning the economic life of the people in all its ramifications are in the air, such regional studies assume additional significance because it is only through these that the existing state of affairs can be understood and a true and realistic picture of the task ahead be obtained. No such detailed study has been made with regard to British Gujarat so far. Dr J. M. Mehta's *A Study of the Rural Economy of Gujarat* was the first attempt in this direction. It was written before the era of the village and taluka surveys set in Gujarat. For this reason, and, because of its exclusive reliance on published material, Dr Mehta's otherwise excellent study could not present Gujarat agriculture in all the relevant details. After the publication of Dr Mehta's book three taluka and two village surveys of Gujarat have been published. These deal with the agricultural conditions in the village or taluka selected in much greater detail, but since these regions have not been selected on the ground of their being representative of the agricultural conditions in Gujarat, neither individually nor collectively they give a complete picture of Gujarat agriculture.

This work is an attempt to fill this gap. The nature of the attempt may be thus explained. The author comes from an agricultural family of Pipalgabhan village in Surat where wet farming is predominant. Agriculture in this village has been mechanized in some measure. An important section of the peasantry of the village is enlightened and enterprising and pursues farming as efficiently as is possible under Indian conditions. Because of this he had an opportunity for a number of years of observing and studying agricultural conditions and rural life first hand in all their ramifications. With this background, the writer studied all the available literature on agriculture and allied topics with special reference to Gujarat.

This was supplemented by discussions with a large number of experienced persons in the rural areas on the special problems of Gujarat agriculture. In addition to these, the writer undertook field-work all over British Gujarat on almost all the economic aspects of rural life. The districts of British Gujarat were divided into regions on the basis of agricultural conditions in general, and crops and climate in particular, and a representative village was selected from each for detailed examination. In all 21 villages were visited. Care was taken, at the same time, to include all the rural classes. Information was obtained from 217 families comprising 178 farmers, 19 artisans and 20 agricultural labourers. The inquiry was undertaken during February-May 1944 when the last war had already run over four years of its course. This was supplemented by visits during 1945 and 1946, and correspondence with several parties. This gave the writer an opportunity to study also the effects of the war on agriculture in Gujarat.

It is hoped that a detailed systematic account of agricultural conditions in Gujarat is thus presented for the first time by a combination of the method of personal investigation and a study of available literature. The discussion of various problems based on the factual material thus collected will also, it is expected, prove realistic and of practical value.

PHYSICAL BACKGROUND

AREA AND LOCATION

BRITISH Gujarat is not a compact region. It is interspersed by the territories of Baroda and other minor States. The area of Navsari and Baroda districts belonging to the Baroda State alone comprises 3,744 square miles. Gujarat proper, of which the region under study is a part, has an area of 33,798 square miles. Ahmedabad, Kaira, Broach and Panch Mahals and Surat districts cover 3,899, 1,617, 3,198 and 1,695 square miles respectively thus bringing the aggregate area of British Gujarat to 10,409 square miles,¹ about one-third of entire Gujarat.

Mul Gujarat lies between $20^{\circ}3'$ and $24^{\circ}5'$ north latitudes and $71^{\circ}3'$ and $74^{\circ}4'$ east longitudes. The five districts of Ahmedabad, Kaira, the Panch Mahals, Broach and Surat lie respectively between $21^{\circ}26'$ and $23^{\circ}37'$, $22^{\circ}14'$ and $23^{\circ}7'$, $22^{\circ}15'$ and $23^{\circ}11'$, $21^{\circ}25'$ and $22^{\circ}15'$ and $20^{\circ}17'$ and $21^{\circ}28'$ north latitudes and $71^{\circ}19'$ and $73^{\circ}27'$, $70^{\circ}30'$ and $73^{\circ}23'$, $73^{\circ}22'$ and $74^{\circ}29'$, $72^{\circ}31'$ and $73^{\circ}10'$ and $72^{\circ}35'$ and $73^{\circ}29'$ east longitudes. Except for the Panch Mahals which is a little eastward in the interior the other districts are located in a line, as it were, from north to south along the western coast. The territory stretches over a distance of about 225 miles from north to south and has a width varying from 10 miles and less at some places in the extreme south to about 150 miles in the north where parts of Ahmedabad, Kaira and the Panch Mahals are located shoulder to shoulder. At the northernmost boundary is Ahmedabad with Kathiawar States on its west and the Palanpur States Agency and the territories of Baroda State in the north-west and north respectively. The Mahi Kantha and Reva Kantha Agencies are to the north-east of this district. The States under these two jurisdictions are also to the north-east of Kaira district. To the east of Kaira is the Panch Mahals, while to the west lie part of Ahmedabad and the Gulf of Cambay. It will be seen that from the point of view of climatic conditions and physical

¹ *Census of India*, 1941, Vol. XVII (Baroda), p. 9, and Vol. III (Bombay), p. 2.

configuration the territories north of Gujarat are virtual deserts and have greatly influenced the climate and rainfall of the Ahmedabad district. The Panch Mahals is highly interspersed by the Reva Kantha States which split up the five sub-divisions of the district into two with Kalol, Halol and Godhra on the west and Dohad and Jhalod on the east. Beyond the Panch Mahals are situated Rajputana and Central India States. Ahmedabad and Broach lie on the Gulf of Cambay, the coast of the Gulf forming the eastern boundary of the Dhandhuka taluka and Ghogha mahal of the former and the western limits of most of the sub-divisions of the latter. On the west of Broach and Surat districts lie the Rajpipla and Baroda territories with large areas under forests. Surat is the southernmost district of Gujarat where it has a common boundary with the Thana district of Konkan. The Pardi taluka of Surat passes beyond the alluvial lands of Gujarat and is geographically akin to North Konkan, the trap formation extending south along the Malabar coast.¹ Approximately to the east and north-east of this district there are the Dangs and the Bansda and Dharampur States which are for most part hilly forest regions.

NATURE OF THE REGION AND SOILS

Gujarat is a continuous fertile level plain except for a few hills and patches of uneven surfaces in Surat and the Panch Mahals. It is broken here and there by the watercourses of rivers and streams. In Surat and Kaira, there is plenty of vegetation, while the black soil tracts of *Bhal*, *Kanam* and the area between the Tapti and Narbada rivers are wide stretches of level plains extending for miles with little vegetation and present a barren, desert-like unpleasant country-side in the hot weather.

The region slopes gently from east to west and can be divided into certain well-marked belts. Along the coast in Surat, Broach and to some extent in Ahmedabad a strip of land always remains under the influence of sea water and thus cannot be put to any productive use. A little further in the interior, an area still narrower in breadth is either directly covered by sea water occasionally or indirectly under the influence of salt and thus cannot be fully exploited. Beyond this lies the large fertile area over which all the food and non-food crops are raised—the lands that have earned the name of 'garden' for the territory under

¹ *Revision Survey Settlement, Pardi Taluka*, p. 56

study Still deeper eastwards these fields merge into hills and forests in Surat, into the former alone partially in Broach and in soils nearly like deserts in Ahmedabad influencing profoundly the climatic conditions of the whole district The Kaira district is a flat plain and free from the influence of sea water There the land is uniformly crop-bearing and merges into the cultivated areas of the Panch Mahals and other Native States The western half of the Panch Mahals largely resembles the *Kanam* tract in soil climate and agricultural conditions, while its partially excluded areas are comparatively favourably situated in this regard because of the large forests located in them Beyond the Panch Mahals, extreme climate more or less like that in territories beyond Ahmedabad, slowly begins to appear

The principal soils of Gujarat are *Goradu* and *Kali* with numerous varieties under both the classes The *Goradu* type includes all varieties from the drift sands of Ahmedabad to the rich loams of Kaira and is also to be found in parts of the Panch Mahals, and to some extent in the Bardoli taluka, Valod mahal, and the rice-producing southern sub-divisions of Surat The *Bhal* tract and the Viramgam taluka of Ahmedabad, the region bordering the *Bhal* tract in Kaira, Broach and the lands north of Navsari in Surat are mainly composed of black soil In addition to these varieties, there are the *bhatha* lands chiefly in the beds of the Narbada (Tavara and Kashia *bets*), Tapti and Sabarmati rivers formed by alluvium brought by the waters and not covered by the streams during dry seasons These are probably the richest of all in fertility

RAINFALL

The table on p 6 gives the quinquennial averages of rainfall and the number of rainy days per season for the quinquennials ending 1919-20, 1924-5, 1929-30, 1934-5 and 1939-40 and those for the four years 1940-1 to 1943-4

This table gives averages of precipitations at the district head-quarter towns and as such does not truly reflect the variations in rainfall in different parts of the districts Generally rainfall is very heavy, amounting to about 75 inches on an average and many times reaches 100 inches or touches 110 inches in the three southernmost sub-divisions of Surat and gradually diminishes as we proceed north till it is about 20 inches on an average in the Viramgam taluka of Ahmedabad The low rainfall in

ANNUAL PRECIPITATIONS AND RAINY DAYS, 1915-16 TO 1943-4

District	1915-16 to 1919-20		1920-1 to 1924-5		1925-6 to 1929-30		1931-2 to 1934-5		1935-6 to 1939-40		1940-1 to 1943-4	
	Rainfall (inches)	Rainy days	Rainfall (inches)	Rainy days	Rainfall (inches)	Rainy days	Rainfall (inches)	Rainy days	Rainfall (inches)	Rainy days	Rainfall (inches)	Rainy days
Ahmedabad	26 26	38	25 96	33	41 80	43	38 24	40	25 13	33	35 91	34
Kaira	27 92	38	23 63	32	38 35	40	35 39	41	22 55	33	38 81	37
Panch Mahals	33 29	45	34 18	42	51 65	47	51 77	47	32 61	36	45 36	43
Brosch	36 74	45	25 25	41	35 04	43	30 26	38	28 43	35	37 81	35
Surat	40 98	49	38 95	54	41 81	46	48 84	51	41 45	44	49 47	49
British Gujarat	33 44	43	29 58	40	41 73	45	40 96	43	30 03	36	41 47	40

Broach, Kaira and Ahmedabad is due to the absence of hills and forests obstructing the Arabian Sea monsoon winds which pass through the gap near Baroda to meet those of the Bay of Bengal further north. Perhaps, because of the forests in the Panch Mahals, these winds are forced to unload an appreciable portion of moisture. As a result we find comparatively good rain in that district.

It has been observed that over a long period there has been a gradual decline in the quantity of rain in Gujarat¹. Similar tendency is not quite noticeable from the table. In view of more or less assured rainfall, however, Gujarat was considered to be free from famines till the disastrous droughts of 1899-1900 and subsequent years which dispelled this feeling and set people thinking that despite its comparative safety, the possibility of an occasional total failure of rain and crops in one area or another and the privations resulting therefrom could not be altogether discounted². Of special significance are the continuous wide variations in rainfall from year to year although they are very largely evened out when averages of the rainfall for a number of years are struck³. As on the bulk of the lands under the plough in Gujarat cultivation of unirrigated crops is the rule, the success of the harvests is entirely dependent on sufficient and timely rainfall. It will thus be clear what deep repercussions the fluctuations in precipitations would have on agricultural production. On the occasion of revising the assessment of some talukas of Kaira, Ahmedabad and Surat an inventory into the nature of seasons during the last two or three decades was attempted and it was found that while in the case of some sub-divisions for every ten harvests three to five were good and

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 4.

² *Report of the Indian Famine Commission, 1901-3*, Part II, p. 46, *Census of India, 1931*, Vol. VIII (Bombay), Part I, p. 7, Gowda, S. L., *Economic and Political Life in Baroda State*, p. 23 and Jenkins, W. G., "Fighting Famines and Scarcity in Bombay", *Indian Farming*, Jan 1944, p. 6.

³ The figures (in inches) of the average annual rainfall in British Gujarat during 1935-6 to 1943-4 given below indicate how the precipitations vary from year to year.

Region	1935-6	1936-7	1937-8	1938-9	1939-40	1940-1	1941-2	1942-3	1943-4
British Gujarat	21.89	24.08	43.50	27.56	26.18	30.78	43.71	54.42	36.97

Also see *Second Revision Survey Settlement, Thasra*, p. 3 and Anand, p. 2 and the graph facing page 9, *Census of India (1931)*, Vol. VIII (Bombay), Part I.

the remaining either fair, indifferent or bad, in respects of others no years yielded crops satisfactory enough to entitle them to be termed periods of good harvests¹ The black soil of the northern sub-divisions of Kaira and many parts of Ahmedabad are impregnated with salt which makes its appearance on the surface in patches in years of low rainfall and considerably harms the crops In the absence of the knowledge of systematically manuring the soil to counteract the evil effects of salt, farmers look to rains solely for rescue Sufficient rainfall is very essential also from this point of view

There seems to have been a slight decline in the number of days for which rain falls From the table given earlier it will be found that the monsoon in British Gujarat as a whole was spread over 43 days on an average for the five years beginning with 1915-16 The rainy seasons came to be restricted to 40 days on an average for the four years 1940-1 to 1943-4 It has been found that in most of the areas of Kaira district an annual rainfall of 30 to 35 inches spread over from 45 to 50 days is considered necessary for successful harvests More or less similar conditions also apply to Ahmedabad² If we compare these requirements with the actual facts in the table it will be found that the situation is highly unsatisfactory, particularly in regard to the duration of the monsoon When rainy seasons are concentrated over short periods two undesirable results follow Heavy rains lasting for a short time cause violent run-offs which carry with them valuable top soil from the fields Further, such heavy precipitations of short duration leave little scope for rain water to be absorbed by the soil with the result that, paradoxical as it may appear, in spite of fairly adequate rains the sub-soil water level, particularly in North Gujarat, is reported to be going down On account of the defective surface drainage rendered unserviceable by faulty construction of railways, about which more will be said later on, and more or less similar conditions prevalent with regard to the flow of river water, floods have almost become a common feature

¹ See *Second Revision Settlement*, Anand, p 2, Borsad, p 2, Thasra, p 3, Kapadvanj, p 3, Nadiad, p 3, Bardoli, p 5 and Chorasi, p 4 *Third Revision Survey Settlement*, Viramgam, p 4 and Dhandhuka, p 2 Also see *Special Inquiry into Second Revisions of Matar and Mehemdabad Talukas*, p 4 and *Census of India* (1931), Vol VIII, Part I (Bombay), p 8 and chart facing p 9, *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, pp 16 (iii) and 16 (v)

² *Second Revision Settlement*, Nadiad, p 3, Thasra, p 3, Kapadvanj, p 3, Borsad, p 2 and Anand, p 2

in Gujarat and every year reports are received from one part or another of extensive damage to crops, lives and property resulting from them

RIVERS

The Sabarmati, the Mahi, the Narbada and the Tapti are the four important rivers of Gujarat. In addition, there are other small ones some of which are the Khari, the Hathmati, the Meshva and the Bhogava in Ahmedabad, the Shedi, the Mul Khari, the Vatrak and the Mohar in Kaira, the Kim and the Dhudhar in Broach and the Mindhola, the Purna, the Ambica, the Auranga, the Par and the Damanganga in Surat. Besides these, in all the districts including the Panch Mahals but more particularly in Surat there are innumerable small streams. All the big rivers have their origin in other territories and their courses also lie for the most part outside Gujarat. In conformity with the configuration of the region the rivers big and small, flow from east to west and empty themselves in the Gulf of Cambay.

It has been stated that the soils of Gujarat have been formed by the alluvium brought down by the big rivers and to this they owe their fertility. With the passage of time, however, the process of pulling downstream the soil particles has worked to the disadvantage of the soil. The huge quantities dragged down along with the streams have not only silted up the rivers themselves but have raised the bed of the Gulf of Cambay at their mouths.

During the dry seasons the big rivers flow on broad beds in thin streams and only during the monsoon they are full from bank to bank. Portions of the uncovered beds of the Narbada, the Tapti and the Sabarmati raise valuable unirrigated crops in dry months. Among all rivers the stream of the Sabarmati is the thinnest, the Mahi and the Tapti come next. The Narbada has the widest belt of water, even though, in common with other rivers, its bed is also broad, nearly about three-quarters of a mile near Broach. For this reason the Mahi and the Sabarmati are useless for navigation, while in the other two, small cargo boats ply for some distances upstream during dry seasons. In monsoon the rivers become violent making trade impossible. The river transport is progressively diminishing. On account of their high rugged banks and the tidal influence under which they remain

all the year round, these big rivers can not be utilized to irrigate crops. The Sabarmati river alone has proved useful over a length of 14 miles in Kaira for this purpose and its water along with that of its tributaries, the Khari and the Hathmati, has been utilized in agriculture through engineering projects. Schemes to construct irrigation works in the Sabarmati and the Tapti have been put forward but their practicability has not been proved and so far the general opinion is that the prospects of utilizing their water to build up a prosperous agricultural industry are not bright. A detailed discussion of the rivers from this point of view follows later on.

FLOODS

The process which endowed the region with rich soil deposits and made it a fertile tract raising all kinds of valuable crops assumed, as we noted earlier, an unfavourable, almost a dangerous, trend later on. Its repercussions began to be noted in the shape of floods almost as early as the beginning of the eighteenth century, but more particularly since the latter half of the nineteenth century.¹ The river beds became progressively shallow and could not accommodate the flow of water in the monsoon. The huge quantities of water during rains could not also be drained away to the sea smoothly because of the silting up of the Gulf of Cambay. On account of these factors, the flood waters frequently overflowed the banks of the rivers causing heavy damage to the standing crops in the adjoining fields and to human life and property. Sand frequently began to be deposited in the fields, as for instance, by the Khari river in the Matar taluka, seriously impairing fertility and in many cases, when the phenomenon continued for some years, rendering cultivation impossible.² A critical stage has already been reached in some parts. During the last few years the rivers and streams, particularly of the Kaira, Broach and Surat districts have started changing their courses. Besides destroying human and animal life, crops and other property, they have washed away fertile cultivated lands. For instance, the Tapti changed its course twice in 1944 and in 1945 and as a result a couple of villages with

¹ See *Gazetteers of Bombay Presidency*, Vol. IV (Ahmedabad), pp. 9-13, Vol. II (Surat and Broach), pp. 18-24, Vol. III (Kaira), pp. 5-12. Also see *Census of India* (1931), Vol. VIII, Part I (Bombay), p. 7.

² *Report on an Inquiry into the Second Revision Settlement*, Matar and Mehemdabad Talukas (1931), p. 3 and *Second Revision Settlement*, Mehemdabad Taluka, p. 13.

prosperous agriculture and peasantry have partially disappeared. A similar phenomenon occurred when the Narbada changed its course near Broach in 1939 and in 1944 and washed away several acres of fertile lands from its southern bank. These developments have brought to the forefront the question of dredging the river beds and the Gulf of Cambay, and devising other projects of flood control which have hitherto been neglected. The floods in rivers attain the highest levels in the plains if the rainfall in regions further up is heavy. Hence, dams should be built across the rivers and their tributaries upstream in the hills to hold up the rapids and thus prevent the quick run-off of water towards Gujarat. As early as 1903 the Indian Famine Commission commended for the consideration of the Government, projects on some such lines to utilize river water fruitfully. It is in such flood-control measures and in the utilization of held-up water for irrigation and electricity generation that the experiences and achievements of the Tennessee Valley Authority would be of immense use. Unless the task is taken up promptly and the present dangerous developments in which the rivers tend to be the 'sorrows of the land' are checked, in a few years to come, not to speak of the calamity staring some of the most prosperous agricultural regions of Gujarat in the face, the cities standing on their banks would stand in danger of being wiped out of existence.

THE HUMAN FACTOR IN RURAL GUJARAT

THE *per capita* income serves as a measure of the economic well-being of the population of a country. This in turn depends, next to natural resources and the stage of economic development, on the size of the population. Particularly in regard to agriculture, where the resources available for exploitation are limited, there is a great possibility of the population exceeding the optimum and reducing the *per capita* income. The optimum will also depend on the quality of the people. In this chapter we shall consider the agricultural population in Gujarat, its relation to land and its health and education.

GROWTH OF POPULATION

The correct way to ascertain the changes in the pressure of population on land is to compare the numbers of those who actually depend on farming for livelihood at different periods. But it is not possible to study the question accordingly. In view of the changes in the methods of enumeration and occupational classification from census to census, one cannot stage a comparison of agricultural population in relation to cropped area from decade to decade. For example, figures of the total agricultural population for 1911 and 1921 are available. In 1931, however, instead of collecting and classifying the data under 'actual workers' in agriculture and their 'dependents' as was done during the two previous censuses, information under 'principal workers', 'working dependents' and 'persons having agricultural occupation as subsidiary to others' was gathered. Even these highly inadequate and unsatisfactory statistics are not available for 1941. Exigencies of war and the heavy pressure of war work prevented the computation and publication of information about the occupational distribution of population in that year.

The figures of the rural population alone have thus to be relied upon for the purposes of our study. These figures on the one hand, comprise certain sections of the population like traders, who are not dependent on land for their livelihood. On the other hand, certain categories of people such as absentee landlords, rent collectors and estate managers, who largely draw their

livelihood from agriculture, but may reside in towns and urban centres, are excluded. Since, however, both these sections are a small part of the total population, these figures regarding the rural population give a fairly correct picture of the changing position.

The tables on pp 14-15 give the urban and rural populations of Gujarat for the four censuses from 1911 to 1941 and the averages of cropped area for the corresponding quinquennial as also the density of rural population per square mile of cropped land at the end of each decade. Census enumerations prior to 1911 yielded highly divergent results about the strength of rural population on account of the epidemics and famines which visited the land then and have therefore not been taken into account to ascertain the trend of pressure of population on agriculture.¹

The urban and rural populations of British Gujarat in 1911 were 6,62,768 and 21,40,306 respectively, or 24 per cent and 76 per cent. Additions were made to both the groups during 1911 to 1941 without interruption. Figures of population in the urban and rural areas at the last census were 12,41,196 and 28,51,517 or 30 per cent and 70 per cent respectively. A similar tendency is in evidence in British India. In 1911 the urban population of British India was 9 per cent. In 1941 it increased to 13 per cent. It will be noted that the process of urbanization in Gujarat has gone much further than in respect of British India as a whole. While the total population in rural areas increased, the rate of increase was less than in the urban population. This signifies a movement of the population from villages to cities. From the quantitative aspect, this is a desirable development, but qualitatively it may not be to the advantage of agricultural industry.² We have no information regarding the exact character of the population migrating from villages to cities, but the general impression is that it is not the unenterprising, inefficient backward classes who migrate in this way, but mainly the younger educated sections of the enterprising and enlightened upper classes. We shall treat this aspect in

¹ For a detailed account see *Census Report*, 1901, Vol IX (Bombay), pp 22, 27, 28 and 83, *Report*, 1911, Vol VII, Part I (Bombay), p 29, and *Report*, 1921, Vol VIII, Part I (Bombay), p 25. Also see Ranade, M G, "Twenty Years' Review of Census Statistics", *Essays on Indian Economics* (1899), p 203.

² *Agrarian Problems from the Baltic to the Aegean*, Royal Institute of International Affairs, p 55.

URBAN AND RURAL POPULATIONS,
CROPPED AREA AND DENSITY OF RURAL POPULATION PER SQUARE MILE OF CROPPED AREA, 1911-41

District	1911					1921		
	Urban population (in 000's)	Rural population (in 000's)	Average cropped area 1910-11 to 1914-15 (sq miles)	Density of rural population per square mile of cropped area	Urban population (in 000's)	Rural population (in 000's)	Average cropped area 1920-1 to 1924-5 (sq miles)	Density of rural population per square mile of cropped area
Ahmedabad	3.03	5.25	2,629	199	3.65	5.27	2,902	188
Broach and Panch Mahals	1.03	5.26	2,002	263	1.25	3.58	2,028	275
Kaira	1.08	5.84	1,169	499	1.17	3.94	1,340	444
Surat	1.49	5.05	1,216	415	1.39	3.15	1,216	424
British Gujarat	6.63	21.40	7,016	305	7.66	21.94	7,486	293
British India	2,16.44	21,04.36	3,95,480	532	2,36.96	21,00.38	3,95,157	532

URBAN AND RURAL POPULATIONS,

CROPPED AREA AND DENSITY OF RURAL POPULATION PER SQUARE MILE OF CROPPED AREA, 1911-41—(CONT.)

District	1931				1941			
	Urban population (in 000's)	Rural population (in 000's)	Average cropped area 1930-1 to 1934-5 (sq miles)	Density of rural population per square mile of cropped area	Urban population (in 000's)	Rural population (in 000's)	Average cropped area 1940-1 to 1942-3 (sq miles)	Density of rural population per square mile of cropped area
Ahmedabad	4.00	6.00	2,939	204	7.02	6.70	2,944	228
Broach and Panch Mahals	1.42	6.47	2,023	320	1.72	7.53	2,039	369
Kaira	1.26	6.16	1,340	460	1.47	7.68	1,237	534
Surat	1.43	5.15	1,218	452	2.20	6.61	1,237	534
British Gujarat	8.11	23.78	7,520	321	12.41	28.52	7,571	377
British India	2,80.87	22,86.92	4,01,617	569	3,75.47	25,82.28	4,03,394*	640

* The figure of cropped area of British India relates to the quinquennial average for the period ending 1939-40

greater detail later. It is enough to point out here that the tendency to which we have alluded is harmful to agriculture in that the best elements from rural peasantry are being drained away in this way.

This migration from the villages to cities is not on a scale large enough to relieve the pressure of human beings on land. The statistical calculations given in the tables will show that throughout this period of twenty years except for a setback in 1921 in respect of Ahmedabad and Kaira, which was instrumental in bringing down the average for the whole of British Gujarat, the density of rural population per square mile of cropped area continued to mount up. The pace of increase in the density was considerably quickened during 1931-41. During the thirty years from 1911 to 1941 the rural populations of Ahmedabad, Broach and Panch Mahals, Kaira and Surat rose by 14.3, 41.0, 31.4 and 36.6 per cent respectively. The percentage of rural population to the total which stood at 59 in 1901 rose to 62.6 and 64.8 in 1921 and 1941. The cropped areas including lands cropped more than once also displayed a similar tendency and respectively rose by 62.5, 31.3, 33.1 and 57.7 per cent between the quinquennial ending 1914-15 and the three years period 1940-1 and 1942-3. For British Gujarat as a whole the rural population increased from 21,40,306 to 28,51,517 or by 33.1 per cent during 1911-41, while an addition of 3,55,307 acres from 44,89,769 to 48,45,076 acres or about 7.9 per cent only was made in the gross cropped area during the same period. Thus the man-land ratio which stood at 2.0 acres of gross cropped area for the quinquennial ending 1914-15 per head of rural population declined to 1.7 acres in 1940-1 to 1942-3. A similar development took place in British India. The density of rural population per square mile of cropped area increased from 532 in 1911 to as much as 640 in 1941. About 20 to 25 acres of land is considered necessary for the maintenance of an agriculturist's family of five members on an average in reasonably decent conditions which brings the man-land ratio to 1.4 to 5. It will be clear that instead of progressing towards the ideal there has been actually a deterioration in the situation during the period under study.

§1 **Births and Deaths.** The duty of reporting a birth or death to the village patel, who is the registering authority, is primarily

of the head of the family in which the event occurs. But usually, while making up the monthly statements of births and deaths for being forwarded to the Mamlatdar or Mahalkari of the taluka or mahal concerned, the officer in the village consults the *vadtanias*, who move about in the village day in and day out and are, therefore, in the know of such events in the area. Some enlightened headmen also inquire from the village *dais*, who are the women folk of one type of artisan or another, about the births in the locality or localities served by them to make the statements of births and deaths as complete as possible. But an appreciable number of cases of both types goes unreported. The extent of this error can be gauged from the fact that while increase in the population of Bombay Province during the decade 1931 to 1941 on the basis of excesses of births or deaths noted annually was 10 per cent, the actual addition to the population during the period as revealed by the census was 15.9 per cent.¹

There is also another difficulty in obtaining birth and death figures for our purpose. Separate statistics of annual births and deaths for the rural areas are not available and we will have to be content with the examination of figures under both the heads given jointly for urban and rural areas.

The table below gives the quinquennial averages of births and deaths per *mille* for periods ending 1915, 1925, 1935 and 1940 as also similar statistics for the years 1941-3.

BIRTH AND DEATH RATES IN BRITISH GUJARAT, 1911-43

Period	Birth rate per <i>mille</i>	Death rate per <i>mille</i>
Average, 1911-15	40.27	30.84
Average, 1921-5	37.38	25.73
Average, 1931-5	40.85	28.18
Average, 1936-40	43.78	30.26
Average, 1941	36.42	25.65
Average, 1942	35.13	28.11
Average, 1943	33.40	25.11

The birth and death rates calculated for various districts are

¹ *Annual Report of the Director of Public Health, Bombay Province, 1941*, p. 1

found to vary from period to period or year to year. An examination of the rates for Gujarat as a whole, however, shows a definite tendency of death rate more or less remaining stationary, while the birth rate appreciably mounts up between 1911 and 1940. During 1941 to 1943 both the birth and death rates have declined. Taking the situation as a whole, it will be found that both the birth and death rates have declined between 1911 and 1943, but the fall in the former was far less than that in the latter. Similar tendency is displayed by the figures relating to British India. From 39.61 per mille in 1914-15 the birth rate declined to 33.6 in 1939. The death rate, on the other hand, fell from 30.00 to 25.3 during the same period.¹ This indicates that with the passage of time the rate of growth of population of the region is rising. For want of alternative occupations a very large slice of the increase is thrown on land. In the absence of great improvements the seriousness of the problems facing agriculture as a result of this are progressively intensified.

§2 **Emigration and Immigration** The natural increase in rural population was partly mitigated by migration to cities. Migration and immigration figures regarding British Gujarat are not available. The study of these aspects of the population problem accurately and in detail is not possible in absence of these statistics. Only a few general remarks about them will be attempted, particularly in their relation to agriculture.

Emigration from Gujarat country-side has largely been confined to the Kanbis, Anavils and Bohras from Surat and Patidars from Kaira. The places of migration are mainly South and East Africa, New Zealand, Fiji Islands, Burma, Mauritius, Bahrein Islands, Aden, Bombay and some other places in India and outside. Emigration is undertaken mainly for business and in some cases for employment. In addition to this, some of the Vachhus, Kharwas, and Kohs, who are sea-faring communities and also small cultivators, have either joined the navy and the merchant marine as seamen, or ply small boats on the coast and the interior waterways. These persons usually return in time to put through cultivation and sowing of their small holdings and to harvest the crops, or else the job is done by some members of their families who stay behind. Besides, a few artisans such

¹ *Report on the Sanitary Measures in India, 1914-15*, p. 47 and *Annual Report of the Public Health Commissioner with the Government of India, 1939*, pp. 46 and 48.

as *mochis* and carpenters, and agricultural labourers have settled in Bombay, the former in their original trade and the latter as domestic servants. Figures of emigrants from Gujarat in general and from villages in particular are not at hand, but an idea of the extent of emigration to Bombay can be had from the fact that from 44,703 residents in the city who hailed from Gujarat excluding the Panch Mahals in 1881, the figure rose to 87,269 in 1931.¹

A similar movement of the labourers on a fairly large scale from the country-side to cities such as Ahmedabad, Nadiad, Godhra, Baroda, Broach, Surat, Navsari, Billimora and other important towns for employment largely in industrial undertakings is also noticeable. This causes labour scarcity in villages in the vicinity of such centres all the year round and seasonal shortage in some other areas during sowing and harvesting operations. There are, in addition, fairly large number of rural labourers, mainly from South Gujarat, who work in brick factories and salt works in the Thana district and in stone quarries. Most of them return to their native villages in the monsoon. Similar seasonal migratory movements of labourers take place from Kaira and the Panch Mahals to Baroda and Broach districts during agricultural seasons, but more particularly at the time of cotton picking and again from Kaira to the *Bhal* tract of Ahmedabad at the time of reaping the wheat and cotton harvests. It was complained by the farmers that these movements are instrumental to some extent in causing scarcity of field labourers especially during busy seasons. Looking to the size of the rural population of Gujarat, however, it should be said that emigratory and migratory movements to foreign lands, Bombay and within the region itself, are not large.²

With the expansion in the size of the family and the limited agricultural land at its disposal to meet the rising standard of living, most of the classes described above left their native villages in search of alternative callings. The landless agricultural labourers and other backward classes left their native place primarily to win their bread.³ The desertion of the ancestral

¹ *Census of India* (1931), Vol. IX, Part I (Bombay), p. 16.

² *Special Inquiry into the Second Revision Survey Settlement of Bardoli and Chorasi Talukas*, p. 13.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 74, *Report of the Bombay Banking Inquiry Committee*, Vol. III, p. 161, *Report of the Royal Commission on Agriculture in India* Vol. II, Part II, p. 424, *Revision Survey Settlement, Jalalpur Taluka*, p. 9, and *Revision Survey Settlement, Chikhli Taluka*, pp. 8-9.

profession by the young among the upper classes has a distinct origin. Encouraged by the older people, who were inspired by the sole motive to add to their family prestige, and lured by the modern ways of life and work in the cities, the intelligent youths from the country-side acquired modern education and left their fields either to be inefficiently looked after or neglected by their less enthusiastic and enterprising relatives in the villages or by tenant farmers. Most of these have only become poorly paid clerks in Government offices and business and industrial concerns.¹

In so far as agriculture is concerned, immigration into Gujarat is of little significance. The poor landless labourers from outside, especially Kathiawar, come to all parts of the region except perhaps the Panch Mahals. Immigration of a similar nature from the adjoining Native States occurs in the Panch Mahals in order to make a living by working in the fields.² In some villages in Surat certain enterprising and well-to-do farmers have put through some very valuable long-term land improvements with the help of this immigrated labour. Elsewhere, however, they are employed in the ordinary day-to-day agricultural operations. The bulk of these labourers return to their places of origin before the advent of the monsoon to attend to the cultivation of their tiny fields. Their movement is thus of a purely seasonal character.

§3 Occupational Distribution. A study of the occupational distribution of the rural population is useful in more than one way. Its examination would serve as a basis of study of the social conditions of the various groups comprising it. Far more important than this, however, is the scope such an analysis offers to know the economic conditions of the masses in the villages and the state of agricultural industry. We shall confine our study to the four important groups of non-cultivating landowners, peasant proprietors, tenant cultivators and landless agricultural labourers and shall leave out of account other classes pursuing occupations connected with agriculture and mainly drawing their livelihood from them, because the numbers of each one of them are few and need not receive special treatment. Here again, the Government *Census Reports*, in spite of the unsatisfactory nature of statistics they contain, are our sole source of information.

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 161, Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 3.

² Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 46.

In view of the changes in the methods of enumeration and classification of population according to occupations from census to census, a comparative study from decade to decade to ascertain the trends among these groups is not possible. As the latest *Census Report* does not supply figures of persons in various agricultural occupations, we will examine the position as in 1931. We must, therefore, be content with the analysis of the occupational distribution from one Census Report alone. On pp 22-3 are the figures of persons engaged in the main agricultural occupations.

It will be found that out of the total of 5,17,383 of principal workers under all the four heads of non-cultivating proprietors, cultivating owners, tenant cultivators and agricultural labourers, 22,858 or 4.4 per cent are non-cultivating proprietors, 3,07,761 or 59.5 per cent are cultivating owners, 37,470 or 7.2 per cent are tenant cultivators and 1,49,294 or 28.9 per cent are agricultural labourers. It will be seen that the peasant proprietors constitute the largest single group followed next in importance by landless labourers. Tenant cultivators and non-cultivating landowners follow thereafter in order of importance. On the other hand, the non-cultivating proprietors, cultivating owners, tenant cultivators and agricultural labourers are 2.5, 33.4, 4.4 and 52.1 per cent respectively of the aggregate population engaged in 'pasture and agriculture'. The corresponding figures for British India are 3.9, 24.8, 35.4 and 30.2 per cent respectively. Thus the problems of absentee landlordism and tenancy are less acute in Gujarat than in the country as a whole. Similarly, the peasant proprietor still retains a far more important place in the rural economy of Gujarat than is the case in British India. On the other hand, the proportion that the rural masses constitute in Gujarat is far higher than in the rest of India and such as would outweigh the other favourable factors mentioned above. As among the various districts, non-cultivating proprietors constitute the highest proportion in Ahmedabad and Kaira, Broach and Panch Mahals and Surat follow in order of importance. As against this, the percentages of both cultivating owners and tenant cultivators are highest in Kaira. In Ahmedabad, Broach and Panch Mahals the peasant proprietor holds an important place, although slightly less prominent than that held by him in Kaira. Of all the districts, the place of cultivating

MAIN AGRICULTURAL CLASSES, 1931

District	NON-CULTIVATING PROPRIETORS				CULTIVATING OWNERS					
	Total earners (principal occupation)	Working dependents	Persons following occupation as subsidiary to others	Total	Percentage of total number of persons occupied in agriculture	Total earners (principal occupation)	Working dependents	Persons following occupation as subsidiary to others	Total	Percentage of total number of persons occupied in agriculture
Ahmedabad	7,352	339	179	7,870	4 3	60,661	5,600	593	66,854	37 3
Broach and Panch Mahals	5,244	56	213	5,513	1 7	1,00,668	13,080	1,221	1,14,969	35 2
Kaira ..	7,383	160	911	8,454	3 6	94,183	9,335	1,102	1,04,620	44 8
Surat	2,879	74	91	3,044	1 4	52,249	1,015	1,239	54,503	24 8
British Gujarat	22,858	629	1,394	24,881	2 5	3,07,761	29,030	4 155	3,30,946	33 3
British India	22,06,794	1,23,157	7,24,569	30,54,520	3 9	1,70,44,337	15,65,856	8,13,799	1,94,23,992	24 8

MAIN AGRICULTURAL CLASSES, 1931—(CONT.)

District	TENANT CULTIVATORS				AGRICULTURAL LABOURERS					
	Total earnings (principal occupation)	Working dependents	Persons following occupation subsidiary to others	Total	Percentage of total number of persons occupied in agriculture	Total earnings (principal occupation)	Working dependents	Persons following occupation as subsidiary to others	Total	Percentage of total number of persons occupied in agriculture
Ahmedabad Broach and Panch Mahals	1,407	50	237	1,694	0 9	31,317	58,472	1,085	90,894	50 7
	5,093	1,290	371	6,754	2 0	40,308	1,37,164	1,693	1,79,365	54 9
	28,010	2,787	449	31,246	13 4	13,722	63,428	1,906	81,116	34 8
Surat	2,960	83	160	3,203	1 4	63,747	82,989	1,249	1,47,983	67 3
British Gujarat	37,470	4,210	1,217	42,897	4 4	1,49,294	3,44,053	5,993	4,09,340	52 1
British India	2,28,22,088	34,43,498	15,15,403	2,77,80,989	35 4	1,88,73,968	32,20,988	15,50,210	2,36,51,166	30 2

owners is least important in Surat. Surat has the highest proportion of landless labourers. Broach and Panch Mahals and Ahmedabad follow next with Kaira far behind.

RURAL HEALTH

Having discussed the population problem of rural Gujarat in a general way we shall now switch over to the consideration of certain aspects such as infant and maternal mortalities, medical aid and diseases, which in the absence of other first-hand data would serve as pointers to rural health conditions.

§1 **Infant Mortality.** The table below gives the infant mortality rate in the villages of British Gujarat for the years 1920-43

Year	Infant mortality per 1,000 child-births	Year	Infant mortality per 1,000 child births
1920	185.79	1940	165.32
1925	140.81	1941	180.94
1930	185.05	1942	156.60
1935	152.57	1943	141.82

The infant mortality rate for children under one year varies considerably from year to year, which shows how health conditions in the villages are left to nature. The average for Gujarat shows that the mortality among infants has considerably gone down from 185.79 to 141.82 per thousand live-births during the period under review. The Indian infant mortality rate is considerably higher than those of some of the more progressive countries, but as between Gujarat and British India the infant mortality rate relating to the former is lower than that for the latter. As against the infant mortality of 141.82 per thousand live-births for rural Gujarat in 1943, the corresponding rate for the villages of British India as a whole was 150.7 in 1939.¹ Evidences relating to Gujarat and India indicate that deaths of children under one year in cities and towns are comparatively very heavy and in this way the country-side stands at an advantage.²

¹ *Annual Report of the Public Health Commissioner with the Government of India, 1939*, p. 56. Also see Gyan Chand's *India's Trembling Millions*, p. 105.

² *ibid.*, p. 56 and *Annual Report of the Director of Public Health, Bombay Province 1942*, pp. 155 and 157.

§2 **Maternal Mortality.** The following statement contains figures of deaths from child-birth annually compared with the respective total live-births in the rural areas of British Gujarat.

MATERNAL MORTALITY AND LIVE-BIRTHS IN
RURAL GUJARAT, 1920-43

Year	Deaths from child-birth	Total births	Year	Deaths from child birth	Total births
1920	137	80,347	1940	248	1,15,009
1925	187	91,726	1941	121	1,05,818
1930	160	85,736	1942	609	1,16,738
1935	355	1,04,046	1943	655	1,42,117

While in regard to other vital statistics improvements have been noted with the passage of time, an unfavourable trend has all along been noticeable about maternal mortality. The rate of deaths from delivery to every 1,000 births worked out at 0.5 in 1920. It rose to as much as 4.6 in 1943. As compared with conditions in the important cities of India including those of the region under study, the position in the villages of Gujarat is, however, satisfactory.¹ The comparatively early age at which females in India begin to bear children, frequent deliveries and the consequent heavy strain inflicted on them, the general under-nourishment, want of ante-natal and post-natal care and the unavailability of scientific medical advice during pregnancy and at the time of delivery are by far the important causes of heavy maternal mortality. The village *dai* with imperfect knowledge and skill acquired through experience at the cost of several lives is the only attendant usually available. The unhygienic conditions under which the females in the villages pass their period of confinement are hard to describe. Not to speak of midwives and child and maternity welfare centres even trained *daïs* are conspicuous by their absence. During the wave of rural reconstruction which swept the country-side in 1936-7 a scheme of granting scholarships to village *daïs* and sending them to cities to undergo short courses of training in midwifery was mooted, but the project fell through for want of proper response.

¹ *Report of the Public Health Commissioner with the Government of India 1939*, pp. 78-9.

§3 Medical Facilities and Diseases. The following statistics will give an idea of the extremely limited medical facilities in Gujarat ¹

District	Hospitals	Dispensaries	Other medical institutions	Number of doctors in the district including headquarters	Average number of persons per doctor in headquarters towns	Average number of persons to each doctor in the whole district
Ahmedabad	9	24	5	270	1,615	18,697
Kaira	6	12		66	2,178	11,647
Broach	2	15	2	52	2,173	9,375
Panch Mahals	1	10		28	2,736	24,966
Surat	10	20	2	145	1,796	8,897
British Gujarat	28	81	9	561	10,498	73,582

The medical facilities provided by the public authorities are hopelessly inadequate. Further, the medical units are inconveniently located at taluka towns and similar semi-urban centres. Vaccination perhaps is the only well-organized service provided by local boards. Of late, special medical officers are being deputed to rural areas when virulent epidemics break out for mass inoculation and similar purposes. Private practitioners are mainly found in towns and large villages which have local board dispensaries. This of course is a phenomenon common to all countries, but its effects are far more serious in India. As the bulk of the country folk have insufficient means, they lack access to what little private medical aid there is at hand. The Government of Bombay have felt the need for adequate medical relief in the rural areas as also for co-ordinating Medical and Health Departments, and a scheme of Government-subsidized medical practitioners is in operation in certain areas. The uncovered field is, however, still very large. The unfortunate situation where vast masses of villagers die without any medical attendance thus persists.

Before the last war 'cottage' dispensaries were organized in villages under the auspices of the Red Cross to treat minor

¹ Report of the Bombay Economic and Industrial Survey Committee, p. 36

ailments and render first aid. Limited stocks of drugs and some minor equipment were supplied to these centres of medical aid twice a year. The necessary expenditure on their purchase was defrayed from the Red Cross funds. It was understood that the treatment of the poor was to be entirely gratis. But the transport charges from the centres of the organization to villages were realized from a small charge on the well-to-do patients who frequently took advantage of the facility. These dispensaries were placed in charge of the primary school teachers after they underwent short courses in first aid and in the use of drugs. Government also used to place at the disposal of the villagers small quantities of quinine through the village police patels. Quinine powder was also sold in packets at the village post offices. Subsequently, however, the flow of medicines to these portable dispensaries dried up completely, due mostly to scarcity and rise in cost due to war-time conditions. Consequently the vast rural population was deprived of medical attendance of any kind and had to rely on nature for recovery.

It is not possible to ascertain from the published data the diseases mainly responsible for the large number of deaths. The largest number of casualties is reported under the head 'other fevers', while mortality on account of other diseases does not appear to be considerable¹. The defects in reporting causes of deaths are well known and it is not unlikely that cases which cannot be reported under any specific disease might have been included under 'other fevers'. Epidemics such as plague, cholera and famines are not frequent, but they too account for a heavy toll of life in the long run². Malaria is also responsible for inflicting considerable misery on the rural population. Areas of luxuriant vegetative growth such as Mandvi, Pardi, Bulsar and Chikhli talukas in Surat and parts of the Panch Mahals have an unhealthy climate and the population of these sub-divisions suffer a great deal from malaria, particularly during the monsoon and after. Similarly many villages in North Gujarat, especially those on the river banks, are regular

¹ *Annual Report of the Director of Public Health, Bombay Province, 1942*, pp 144-7.

² See *Gazetteers of Bombay Presidency*, Vol II-B (Surat and Broach), p 78, Vol IV-B (Ahmedabad), p iv. Vol III-B (Kaira and Panch Mahals), pp iv and 52.

victims of malaria, mostly during the monsoon and the following months¹

The high birth and death rates and infant and maternal mortalities indicate the great need of making medical aid available to the poorest in the villages and of improving the health of the people so as to add to their power of resistance to diseases. It is encouraging to know that along with other aspects like agriculture, education, etc. for which plans for reconstruction have already been drawn up, this subject is also engaging the attention of the Central Government. A beginning was made with the appointment of a Committee by the Government of India in 1943 to examine the question of health and medical facilities in the country and to suggest remedies to bring about improvements in them. The report of the Committee which was published in 1946 contains an exhaustive survey of the prevailing health conditions and the available public and private medical facilities in India. The need for all-round improvement has been stressed and a plan of birth-control measures to check the growth of population and other measures, both of short-term and long-term nature, to improve the health of the people and expand severalfold the medical facilities available to them has been offered². It is to be hoped that the Government will implement the recommendations of the Committee soon.

EDUCATION

§1 Progress and Present Position of Literacy. Access to facilities to learn the three 'Rs' has been universally recognized as one of the important privileges to which every citizen is entitled. Primary education makes for an enlightened populace and thus ensures smooth and proper working of democratic governments. Besides, without this prerequisite, the response to ameliorative measures, both economic and social, from those for whose benefit they are ushered, will be poor. In India, where agriculture forms the chief occupation of the masses, a peasantry which can read and write so as to be able to understand and

¹ See *Revision Survey Settlement Report*, Bulsar, p. 43, Pardi, p. 3, Chikhli, p. 4, and Mandvi, p. 42. Also *Second Revision Survey Settlement Report*, Nadiad, p. 3, Thasra, p. 2, Borsad, p. 2, Anand, p. 2 and Kapadvanj, p. 2. Also *Report on the Inquiry into the Current Rates of Assessment in Matar and Mehendabad Talukas*, p. 3.

² For full details of the conclusions and recommendations of the Health Survey and Development Committee, reference may be made to their *Report*, Vols. I and II.

co-operate in the right spirit in all the efforts undertaken to improve its lot is the supreme need of the hour

The table below gives the present position of primary education and its progress since 1911

Year	Total literacy per cent	Male literacy per cent	Female literacy per cent
1911	11.7	20.2	2.6
1921	13.6	22.2	4.1
1931	13.3	21.9	3.9
1941	20.8	32.4	10.8

In 1911 and 1921 literate persons formed 11.7 and 13.6 per cent of the population respectively. After a slight decline to 13.3 per cent in 1931 the percentage rose to 20.8 in 1941. The slight setback in 1931 is accounted for by the fact that the advanced classes which constitute the bulk of the literates boycotted the 1931 census due to the civil disobedience movement. The corresponding percentages of males and females able to read and write were 20.6 and 2.6 in 1911, 22.2 and 4.1 in 1921, 21.9 and 3.9 in 1931 and 32.4 and 10.8 in 1941. This information relates both to the rural and urban areas excluding the region covered by the Ahmedabad Municipality. The number of persons able to read and write is comparatively high in towns and cities and would obviously raise the literacy level on the whole. In the country-side the proportion of literates to total population is bound to be appreciably lower.

In the last census the cause for the phenomenal increase in figures of those who were able to read and write was that the definition of 'literate' included also the 'partially literates'. The last census enumerations, besides, were carried out more scientifically and efficiently as compared with similar previous operations. Something should also be said about the novel method adopted in computing the literacy tables which was responsible to some extent in presenting a more or less exaggerated picture of conditions in this regard. The extent to which literacy has made headway has been ascertained at the last census on the basis of random sample method according to which, instead of

taking into account all the individual returns which would have covered the entire population, only every fiftieth return was examined, and the results obtained in this way were published on the presumption that they would fairly reflect actual conditions

The figures cited above indicate a higher level of literacy in Gujarat than the rest of India. This comparative high percentage of literates is partly due to the fact that over 20 per cent of the population of the region is constituted of upper classes, a section which is almost cent per cent literate and no incentive or legislative compulsion is necessary to drive their children to the schools¹

It is unnecessary to emphasize that compared with the needs of the situation the progress of primary education from decade to decade is woefully slow. The discussion above would indicate that literacy among females remains still in the primary stage. The following table gives the increases in population and the number of literates from 1911 to 1941

Period I	Increase in population II	Increase in the number of literate III	Percentage of III to II
1911-21	1,55,775	76,482	49.0
1921-31	1,89,113	18,049	9.5
1931-41	3,53,451	2,91,815	82.6

The figures indicate that between 1911 and 1931 additions to the number of literates considerably lagged behind increases in population from decade to decade. The statistics for 1941 also reveal the unequal race between both the sets of figures.

The aversion of the rural population to sending their children to schools is well known. This is partly due to the imperfect realization of the importance of education in life, and partly attributable to the fact, that they want all the children of the family to work in the fields or to earn small wages and add to the meagre family income. This is amply demonstrated by the heavily depleted attendance in the village primary schools during sowing and harvesting seasons. From a rough calculation from the sample table relating to the age distribution of population in

¹ *Census of India, 1941* Vol. XVII (Baroda), pp. 89-90

Gujarat, it may be stated that the number of children actually attending schools is about 68 per cent of the total population in the age-group 5-10. It is not possible to ascertain the strength of population in 10-14 age-group, but when this section is taken into account the proportion of children attending schools would further be reduced. The position of the backward classes would be much worse.

§2 **Educational Facilities** There are certain serious deficiencies in the provision of facilities for primary education which prevent children in the villages from learning to read and write. Out of 3,255 villages in British Gujarat, only 2,294 had schools in 1943-4. A redeeming feature of the situation was that the educational needs of as many as 600 villages out of the 961 without schools were served by the neighbouring villages. But in view of the bad state of the inter-village roads, the difficulties of covering small distances, particularly during the rains, are great and the incentive of children to attend schools is naturally damped. From the standpoint of area, there is one school for every 4.5 square miles. Of all the districts Ahmedabad is the worst in this respect. There is one school for every 6.6 square miles. Surat is the most fortunately situated with one primary school for 2.9 square miles.¹ If separate figures about the provision of educational facilities for villages had been available, the picture presented above would have been considerably less favourable.

To improve this state of affairs the Congress Government under their scheme of mass literacy opened one-teacher voluntary aided schools mainly in the smaller villages which were till then without them. In most cases the strength of enrolment was taken as the basis of ascertaining the teachers' remuneration so as to induce them to improve attendance. In the beginning the response was very good and the unexpectedly large attendance at these schools created great optimism. But the initial enthusiasm of both the newly recruited teachers and the public did not take long to disappear so much so that such schools began to be closed down rapidly. Separate figures for one-teacher schools are not available. But as the variations in the numbers of primary schools from year to year arose mainly out of additions of such schools and their subsequent disappearance, we shall be

¹ *Supplement to the Report on Public Instruction in Bombay Province 1943-4*, p. 3.

able to form from these figures a rough idea of initial progress achieved and the decline that set in later. In 1937-8 there were 2,572 primary schools in Gujarat. Under the literacy drive referred to many one-teacher schools were opened and by 1941-2 the number of primary schools went up to 3,468. A reversal set in thereafter with the result that in 1943-4 the number of primary schools in existence fell to 3,377.

The equipment of the village primary school such as furniture, maps, books, stationery, materials for games, etc., is far short of the minimum requirements for efficiently conducting the work of instruction. Except for some villages which possess their own school buildings, the classes in the vast number of villages are held in rented premises, *dharmashalas* or buildings donated by philanthropic-minded persons which are, it is hardly necessary to emphasize, rarely in good condition.¹ A few village school buildings have been constructed under Sir Purshottamdas Thakurdas and Seth Mafatlal Gagalbhai Funds and through the efforts of bodies like the Panch Mahals Primary Education Society, the Bhil Seva Mandal and the District School Buildings Committees constituted of late by the Government. But under the Sir Purshottamdas Thakurdas and Seth Mafatlal Gagalbhai Funds and the Government arrangement, proportionate cash contributions have also to be made by the population of the villages concerned. On account of the lack of financial resources, they are unable to make contributions except in kind with the result that not much headway has been made in this direction.

Salaries of primary teachers, particularly of the assistants, are miserably low and many times compare unfavourably with the cash wages of an urban labourer or a factory worker.² It is true that the average number of pupils per teacher is small and the annual average outlay per pupil, although less than one-third as compared with progressive countries like England, is high in the light of the country's economic conditions.³ Any improvement in the teachers' scales of pay would materially add to the cost of education. The causes for poor average attendance,

¹ To get an idea of owned, rented and other charitable buildings in use for primary schools in the Province see *Report of the Director of Public Instruction, Province of Bombay, 1943-4*, p. 70.

² *Supplement to Quinquennial Report on Public Instruction in Bombay Province, 1937-42*, p. 45.

³ *ibid.*, pp. 189-97. Also see *Report on Post War Educational Development in India*, Government of India, p. 1.

however, he elsewhere and it would be both unfair and inexpedient to wait to improve the lot of the primary teacher till the time when a considerably large number of children can be given to him.

Primary education is at present the responsibility of local bodies and this has been partly responsible for the present state of affairs. It is true that the Government bear most of the cost on primary education through grants to local boards.¹ However, since provision of facilities for primary education is one of the foremost duties of the Government, instead of leaving the management of the schools to local authorities and expecting them to defray even a small part of the expenditure on education from their meagre resources, the ideal arrangement would be for the Government to take over the important nation-building activity. It is not possible to visualize a better future for primary education unless the Government abolishes its divided finance, control and management and takes upon itself this important function in the larger interest of the country.²

§3 **Adult Education.** Stray efforts to educate the adults in Gujarat were made in the past by some public-spirited persons with the help of philanthropic funds, but the movement fell through mainly due to the failure of such finance to flow continuously.³ Systematic attempts to draw the rural adult population to schools were instituted only by the first popular government under Provincial Autonomy. Adult night classes were opened in the villages and were conducted in the existing school premises by the primary teachers already in employment. Books, slates, etc., and other necessary materials were supplied free out of public funds.⁴ Some public institutions as well as the unofficial bodies followed in the footsteps of the Government and took up the work. In the beginning the adult education drive promised to be a great success. The night schools multiplied by leaps and bounds and large numbers of adults, mainly from the backward classes, were attracted to them. With the passage of time, however, the initial spurt of enthusiasm

¹ See *Supplement to Quinquennial Report on Public Instruction in Bombay Province, 1937-42*, pp. 30-5 and 186-99.

² The Government of Bombay have since (1946) decided to take over the management of primary schools from local bodies. Both the finance and management of primary education will vest with the Government when the decision is implemented.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 132.

⁴ For a detailed account see Laubach, F. C., *India Shall Be Literate*, p. 84.

began to wane slowly, attendance decreased and in many instances night schools were discontinued. The following table gives in summary form the progress of adult education in Gujarat through adult night schools and adult classes ¹

Year	Night schools in existence		Night schools opened and closed during the same year	
	Number	Pupils	Number	Pupils
1937-8	26	980		
1938-9	128	4,536		
1939-40	91	2,471	679	20,040
1940-1	43	1,218	11	216
1941-2	180	4,997	15	351
1942-3	85	2,202	178	4,705
1943-4	64	1,209	35	866

Figures of night schools in the villages and the attendance in them are not available separately. But if allowance is made for such schools at work in towns and cities the extremely limited headway that the adult literacy drive could make in the country-side would be apparent. Prominent parties in the villages and others closely connected with the drive hold the opinion that the pace of retrogression became more pronounced after the exit from power of the people's Government. It will be clear from the discussion about the state of literacy in Gujarat villages and the magnitude of the numbers of adult illiterates that these classes are wholly inadequate and the attendance in them ridiculously insignificant ²

Apart from the tardy official patronage after 1939 there were certain other factors at work which were responsible for the failure of the drive. The attendance mainly consisted of landless agricultural labourers who were ill-equipped to take up intellectual work after the day's exhausting toil in the fields. Aversion towards any kind of enlightenment arising out of the traditional

¹ Night schools and adult education classes conducted by the Ahmedabad Municipality have been excluded.

² For further information about almost the total absence of progress in adult literacy drive see *Census of India, 1941*, Vol. XVII (Baroda), p. 91.

mental lethargy also played its part. It is well known that under the existing condition it is extremely difficult to succeed with rural reconstruction without the support and co-operation of the influential and financially well-to-do elements in rural life. The capitalist farmers who employ these labourers were not only apathetic but in many instances displayed open hostility towards the movement that aimed to enlighten the masses whom they exploited. Further, the task of instruction devolved on the already over-worked and poorly-paid primary teachers who, it is obvious, could not display enthusiasm and impart vigour and personal touch so essential in such an ameliorative measure. The senior trained primary teachers took little interest in adult night schools and left them to be looked after by their assistants. Under the conditions in which our primary teachers, especially the assistants, live and work today it was futile to expect them to be accentuated by the highest patriotic motives. The method of instructing children, which alone the school teachers were familiar with, is unsuited for the adult pupil. It is pertinent to mention here the opinion held in many quarters that the instruction of the adult to be successful should be through the eye and the ear,¹ so that it may be made more attractive and suitable to the conditions of life of the people,² and this was seldom tried.

§4 Basic Education. Apart from the small number whom the present system of education embraces, there are many other defects in it. The foremost is that it is essentially literary in nature and this creates a sort of dislike for the ancestral occupation among the sons of the soil. In the absence of facilities to pursue education further, even this little learning is lost and after a few years, the vast majority of people who pass through primary schools lapse into illiteracy. Instead of offering scope for gauging the aptitudes of individual students so as to guide their energies into proper channels the present system treats the entire mass of children uniformly and is content merely to teach them to read and write. Primary education as at present imparted is thus unproductive for literacy acquired under it is lost before long and it is not of any use to the children of the farmers in helping them to pursue agriculture more efficiently.

¹ *Report of the Royal Commission on Agriculture in India*, Vol II, Part II pp 254-5

² *ibid*, pp 264-5

The novel system of educating children known as the Basic National System of Education originally sponsored by Mahatma Gandhi seeks to remedy these defects. Under this scheme the crafts, of which farming will be perhaps the principal one, are sought to be made the centres of all the activities of instruction so that reading and writing, and the knowledge of immediate surroundings of the country and the outside world, instead of proving boring propositions as under the old method, will not only be assimilated with interest but leave an everlasting impression upon the minds of the taught. Besides performing this very useful function the crafts will also contribute towards the recurring cost of education from the sale proceeds of their products. In the beginning, this contribution will not amount to much, but if this system of instruction progresses in the right spirit, and according to the aims that its sponsors have in view, education of this type is calculated to be self-supporting in regard to the running cost after a certain stage. Thus from the genuine national education would emerge the 'literacy of the whole personality' of the child. At the end of his career at school the pupil will go out into the world fully equipped and confident of making a living. He will not be a misfit in the rural setting to which he belongs and to which he ultimately returns and thus without being handicapped by a sense of embarrassment or frustration he would be able to play his part worthily in the national life.

The duty of the teacher under the new system would extend much further than merely imparting instruction. He will closely watch the inclination of each individual child towards a particular vocation, and from the records of observation of the pupils over a fairly long period will aim at putting each trainee on the job for which he is best suited and for which he has displayed liking and interest. For this reason the supply of the right type of teachers trained in the special technique is of supreme importance. To achieve this a Basic Education Training Centre has been opened at Katargam (Surat). Intelligent and enthusiastic teachers, who may be inspired by the spirit of service, are selected from the existing primary schools and sent to this centre for a course of instruction. At the end of the period of training these teachers are posted in schools, which are intended to be converted into basic schools.

§5 **Sargent Plan.**¹ As is usual with every scheme aiming at national regeneration, the Wardha Scheme when it was first adumbrated was received unfavourably and much adversely commented upon in certain quarters. A dispassionate study and clear understanding, however, dispelled the doubts of the critics regarding the practicability of the new system. With the acceptance of the principle of 'learning by doing' by the Government of India as basis for post-war educational reconstruction in the rural areas, the suitability of the basic system of education to the conditions and requirements of the country became widely accepted. The principles of the Wardha Scheme as briefly described above have been accepted, but the Report does not endorse the view that basic education can be self-sufficient at any stage, particularly at the lowest. It is not necessary to dilate upon this controversial point at this stage. Only when the new system is in full-fledged working for some time will it be possible to find out whether such an ideal is possible of attainment. It should, however, be said that the Report has given the right lead. What is necessary now is to fill in the details in the light of local conditions and implement the same so as to eradicate illiteracy completely in the shortest possible time.

¹ For details of the official plan reference may be made to the Government of India's *Plan for Post War Educational Development in India*, 1944.

CHAPTER III

LAND UTILIZATION

HAVING discussed the human factor in agriculture, we shall now pass on to consider the various ways in which land has been utilized and how it can be better utilized. We shall discuss this under two heads (a) Forests and (b) Cultivation

FORESTS

§1 **Forests and Agriculture** Forests are a great national asset. They serve as basis for many industries beginning from handicrafts to large-scale establishments. We are, however, here concerned only with the vital functions that they perform in relation to rural economy. Forests exercise great influence on weather conditions. Besides having moderating influence on the extremes of climate and preventing the sub-soil water from sinking unduly below the surface, they also ensure the necessary rainfall in and around the regions in which they are located.¹ In regions liable to storm or hot or cold gusts, trees in the forest serve as wind-breakers and prevent damage to such of the standing crops as are liable to be adversely affected. In the regions with uneven surfaces and particularly the hilly tracts, the roots of trees and grass in the forests help to check erosion by preventing the speedy run-off of rain water and by releasing it slowly and by stages, thus saving the valuable top soil from being washed away. It has been estimated that in India while the surface soil lost annually per acre in respect of grasslands is only 1.6 tons, that removed from the bare lands by running water amounts to 8.3 tons.²

Agricultural lands in the neighbourhood of barren uplands and hills are also likely to be flooded and the crops on them destroyed. The damage that will be caused in this way can be avoided to a great extent, and in addition, substantial revenues earned if such waste areas are planted with trees. There are certain direct advantages which the farmers in the neighbourhood of forests enjoy in the shape of a regular supply of timber for agricultural implements, for building huts and small houses for residence,

¹ Report of the Royal Commission on Agriculture in India, Vol. II, Part I, p. 146

² Howard, Sir Herbert, *Post-War Forest Policy for India*, p. 30

and for fuel for household requirements. Areas covered by forests also serve as grazing lands and sources of fodder-supply for the cattle of the peasants in their vicinity, and of the agriculturists over much wider regions when famine conditions prevail, provided a wise policy of storing up grass year after year to meet such contingencies is in operation. The composts formed by decayed leaves and the twigs of trees in the forests serve as a valuable supply of manure to farmers either free or at nominal cost. A section of the landless rural population also enjoys the facilities of getting grants of lands in the forests for cultivation at concessional rates. There is also scope for farmers with small holdings and inadequate earnings to add a little to their insufficient income by pursuing one or more of the forest industries such as gum and honey collecting and bamboo-basket-making or working as labourers in forests.

§2 **Forests of Gujarat** The following table gives the statistics of areas covered by forests under the management of Revenue and Forest Departments in the different districts of Gujarat in 1940-1¹

FOREST AREAS OF BRITISH GUJARAT, 1940-1

District	Revenue Department	Forest Department	Total area under forests	Quinquennial average of cultivated area for the period ending 1939-40	Area of forests in acres per 100 acres of cultivated land
	Acres	Acres	Acres	Acres	
Ahmedabad	8,634		8,634	18,82,802	0.5
Broach and Panch Mahals	2,384	2,01,785	2,04,169	12,97,275	15.7
Kaira				8,60,894	0
Surat	8,103	50,852	58,955	7,90,739	7.4
British Gujarat	19,121	2,52,637	2,71,758	48,31,710	5.6

¹ For various reasons it is not possible to strike quinquennial averages of these figures as we have done in the case of others. Partly due to the transfer of some forests from one circle to another to suit administrative convenience and partly because of errors in the beginning in assessing areas, which were subsequently ratified, it is desirable to concentrate on the latest figures available for the purposes of the study. For instance, till 1936-7 the Mandvi forests used to be included in the Central Circle and only from 1937-8 they were transferred to the Northern Circle. Previous to 1937-8, therefore, forest areas classified in order of the table are not available. Further, forest areas under both the Revenue and Forest Departments do not vary materially from year to year which fact takes away much from the significance of quinquennial averages.

It will be seen from the table that forests in British Gujarat under Revenue and Forest Departments together covered 2,71,758 acres in 1940-1. The average of the quinquennial 1910-11 to 1914-15 was 2,71,047 acres. Thus there has been no marked variation in their area in 30 years. For the region as a whole there are 5.6 acres of forests for every 100 acres of cultivated area.

§3 *Distribution and Adequacy.* The total cultivated area of British Gujarat is 48,31,710 acres. The 2,52,637 acres which are actually under forests make 5.2 per cent of the cultivated area of the region. Even if the 19,121 acres of pastures with sparse growth of *babul* shrubs under the Revenue Department, which have been termed as forests, are included in our calculation, the proportion of forests to total area will not improve materially. Looking to the Indian climate and the general demands of the villagers, it has been calculated that at least 20 to 25 per cent of the area should be under well-managed and well-distributed forests both for protective purposes and for supplying all types of consumers with their minimum needs.¹ Looked at from this point of view it will be found that the area under forests in Gujarat is highly inadequate. Moreover, the forests are most unequally distributed as among different regions. Kaira and Ahmedabad are without forests in the real sense of the term, while in the remaining districts they are highly localized in some of the sub-divisions. The area of 19,121 acres under the Revenue Department located mainly in the Surat and Ahmedabad districts are forests in name only, being in fact pastures with scanty fodder and wood and are uncontrolled and over-grazed.² The reserved forests of 2,52,637 acres under the Forest Department are largely situated in the Panch Mahals and Mandvi sub-division and in patches in Pardi, Bulsar and Chikhli talukas and Valod *peta* of Surat.³ Particularly in North Gujarat the need for forest plantation is paramount as the desert of Cutch has started making inroads into the area and extreme climate and little rainfall, which are the characteristics of desert conditions, are tending to be progressively intensified.⁴

¹ Howard, Sir Herbert, *Post-War Forest Policy for India*, p. 20.

² *Ibid.*, p. 46.

³ Also see *Report of the Bombay Economic and Industrial Survey Committee* (1938-40), Vol. II Ahmedabad, p. 6, Broach and Panch Mahals, p. 7 and Surat, p. 6.

⁴ Howard, Sir Herbert, *Post War Forest Policy for India*, p. 31.

§4 **Forest Utilization.** There are certain outstanding principles according to which the forest policy of a country should be guided. The foremost consideration in any plan of the utilization of forests is the preservation of climatic and physical conditions of the country. Next to this, place should be given to the maintenance of minimum forest areas necessary for meeting the needs of the population, particularly of the villages, for forest products. It is only after these conditions are fulfilled that attention may be turned towards examining the possibility of making some of the forest areas available for cultivation, especially to the landless labourers and to cultivators with very meagre holdings. It would be generally agreed that the utilization of State forests must be regulated as to yield highest returns not to the Government, but to the people as a whole. Opinions, however, widely differ regarding the possibilities and extent of their economic exploitation in the narrow sense consistently with the interests of the population in general and agricultural industry of the regions in which they are located in particular. War exigencies have been responsible for a further deterioration in the forest situation. The unusual demand for timber arising mainly out of the military requirements during 1939-45 has resulted in excessive felling of timber as much as two to ten years in advance.¹ It was observed by the writer during field work that before control over the disposal of timber by merchants taking up forest coups under contracts was instituted even the best timber was sold at highly favourable prices for being used as fuel in the industrial undertakings in urban Gujarat. Only in 1944 systematic checks were devised to see that all the timber felled in the forests under State control was used primarily for satisfying military demands.

The private forests classed as grasslands and located mainly in the Pardi, Bulsar and Chikhli talukas and Valod *peta* of Surat and consisting mainly of *babul* trees besides other species such as *khair*, *sadado* and *teak*, to a small extent are utilized without any system. A regular destructive process has been going on for long which may ultimately result in the total disappearance of this class of forests. In certain areas a deplorable state has already been reached.² The trees, which commonly grow on

¹ Howard, Sir Herbert, *Post-War Forest Policy for India*, p. 24

² *ibid*, p. 13

the grasslands, are purchased by agriculturist contractors from farmer-owners, felled and sold for use as fuel. In the process of removing wood from the land, no discrimination is exercised and mature trees and young plants are cut wholesale only for the small difference that it makes in the earnings of the contractors. Most of the farmers do not take any steps to save young trees from early destruction. Being in need of a little cash, the poor farmers sell the trees before they attain full maturity and thus hasten the process of extinction of private forests. Particularly on account of the rise in the price of firewood from Rs 5 to Rs 7 for a cart-load of approximately 30 maunds in 1938-9 to as high as Rs 35 for the same quantity in 1944-5, there was an indiscriminate cutting of trees, mainly in the southern sub-divisions of Surat, and in spite of restrictions on the removal of wood outside British territory, the process continued practically unchecked due to widespread corruption. In certain areas teak, *khair*, *sadado* and other valuable trees were purchased by contractors and sold as firewood as better prices were realized that way than by their sale as timber. It is not easy to obtain an idea of the extent of the wanton destruction of valuable private forests and the considerable time it will take for their replenishment. Had some sort of control over private forests been in existence, it would have been possible to check this harmful tendency. The need for some control over such forests to prevent their disappearance, to make them yield higher returns and to prove more useful to the agriculturists, cannot be over-emphasized.

§5 Agriculturists and Forests Many old complaints of the rural population in and around the forest areas, particularly in the Panch Mahals, against their administration were brought to light before an official committee specially appointed in 1926-7 to go into them. It was stated during investigation that the ignorant and meek farmers in the Panch Mahals were forced to work in the forests without any payment. They were also required to help the authorities promptly in extinguishing forest fires as and when they broke out. In asking them to render both types of assistance no consideration was shown towards the agricultural operations they had to put through in time during sowing and harvesting seasons which should, as a matter of course, be the first charge on their time and

attention¹ The Congress Ministry which came to power in 1937 fixed the minimum wage to be paid to labourers employed in forests at six annas per day. However, some of the Bhil farmers whom we examined in 1944 stated that either on account of meagre allocation under the head or for other reasons, wages at this rate had not been paid.

The farmers are permitted to carry dead wood from forests in head-loads for use as fuel. It was observed by many farmers during our inquiry in the Panch Mahals that the forest authorities are not very strict about this and that the peasants are able to get as much firewood as they want and are also allowed to remove timber from forests for implements and for building huts and houses in case they are destroyed by fire. The only difficulty experienced in this regard related to the unusual delays in obtaining transit passes and permission to remove timber and the complaint was that there were many exactions of money, grains, ghee, etc., by forest subordinates in that connexion.² The farmers of a village near the reserved forests in one of the southern sub-divisions of Surat, however, stated that they were allowed to remove only dead wood from the forests.³

Some of the farmers in the Panch Mahals reported that they were also allowed to collect honey from forest trees free but were not permitted to remove other products.⁴ In order to encourage cottage industries farmers should be allowed to have access to such products as bamboos, *khakhra* and *timri* leaves and collect raw lac from trees, manufacture *katha* from *khan* trees under reasonable conditions. It has also been urged that the *mohwra* trees which supply food in the shape of flowers to the poor Bihls and from the seeds of which is extracted oil for sale should not be auctioned along with other trees but may be preserved.⁵ It would be appropriate here to refer to the possibilities of developing *katha*-making and match and bobbin-manufacturing industries from certain soft species of wood such as *simal* and *haldaro* found in the forests of Gujarat. Under the exigencies of war, manufacture of bobbins from these varieties is already on the way. Hitherto these trees were used as fuel or simply burnt in the forest *rabs*.

¹ Report of the Forest Grievances Inquiry Committee (1927), Part II, pp. 17 and 75.

² *ibid.*, Part I, p. 16.

³ Village Gandova, Chikhli taluka, Surat district.

⁴ Report of the Forest Grievances Inquiry Committee (1927), Part II, p. 70.

⁵ *ibid.*, p. 75.

The aspect of forest administration over which the farmers felt strongly oppressed was about the fee of four annas per cattle charged for grazing in the forests. They found this fee all the more burdensome because it was levied on all the cattle in the forest villages instead of only on those actually grazed in the forests¹. The contention that the payment of four annas per cattle for the concession to graze in the forests all the year round is beyond the means of the farmer to pay would not stand a cursory examination. It is also interesting to contrast this nominal annual rate of four annas per animal with the fee of Rs 4 to Rs 6 per cattle that is normally charged by big landholders in Surat for extending grazing facilities for three to three and a half months only during the monsoon. The first popular Government that came to power under Provincial Autonomy in 1937 abolished grazing fees. The farmers are to declare before the village officers the number of cattle they want to graze in the forest areas and obtain free permits for the same. In actual fact, in some cases village officers whose duty it is to issue permits do not do so, while in others villagers do not observe the rule of obtaining permits for their cattle². Partly the reason for this may be found in the fact that, as reported by the farmers of a village near reserve forests in Surat, there are ample grazing facilities on the river banks and near village tanks and such other places and as the forests are situated at a considerable distance from the village, few farmers avail themselves of the grazing facilities³.

The farmers also harbour a grievance against the forest administration in connexion with the disposal of the grasslands in the forest areas through the contractors. It is said that the practice comes in the way of the farmers in obtaining necessary fodder for their cattle and creates scarcity conditions occasionally. It is also pointed out that grazing lands set apart in the forests are inadequate for the number of cattle in the district⁴. As against this it has been stated that ordinarily the supply of fodder is more than enough and the surplus quantities are baled and stored for being made available to the farmers in times of famines and scarcity without which their cattle would starve⁵.

¹ *Report of the Forest Grievances Inquiry Committee*, (1927), Part I, p. 7.

² *Annual Forest Administration Report*, Bombay Province, 1940-1, Part I, p. 8.

³ Village Gandeve, Chikhli taluka, Surat district.

⁴ *Report of the Forest Grievances Inquiry Committee* (1927), Part II, pp. 17 and 75.

⁵ *ibid*, Part I, p. 9.

In fairness, our observation during field-work in this connexion should be stated here. It is true that it is not within the means of a few farmers to purchase the rights to remove fodder from forests at the time of auction. But if many farmers belonging to one or more villages jointly decide to bid on the occasion, they are given preference over other non-agriculturist merchants bidding for the rights.

Small pieces of land in the forest areas are also let out on annual leases to the farmers for cultivation at highly concessional rentals¹. It was found, however, that favouritism played an important role in this, and only influential parties succeeded in acquiring lands leased out in this way².

§6 Possibilities of Expansion. In view of the excessive pressure of population, most of the cultivable lands available in Gujarat have been taken up and for 1940-1 to 1942-3 only 1,41,145 acres, 1,11,331 acres and 11,73,548 acres on an average have been classed as 'uncultivable lands', 'culturable waste' and 'area not available for cultivation excluding that already under forests' respectively. It would, therefore, be naturally felt that the scope for the expansion of forests is very limited. A little detailed examination will, however, convince us that although it is not possible to increase the area under forests to about 14 lakhs acres which is the minimum necessary, scope for great progress in that direction does exist. The defects in the classification of lands as 'uncultivable', 'culturable' and 'not available for cultivation' are a matter of common knowledge. Some of the lands, although classed as cultivable wastes, may be found ill-suited to raise crops, but on them forests, to meet the requirements of the villagers would certainly thrive. Similarly, there are areas besides the lands covered by houses, roads, rivers, etc., which have been classed as not available for cultivation and on which small woods can be raised. It is necessary, therefore, to examine in detail these two classes of land and to ascertain the proportion of the former type that can be cultivated and that which would grow useful trees, and also as to what percentage of the acreage under the latter type can be put to this use³. A scheme should, likewise, be devised to raise forests on that part of the reclaimed salt and marshy lands on the western coast of Gujarat which would prove

¹ *Revision Survey Settlement*, Dohad, p. 5, Jhalod, p. 5.

² *Report of the Forest Grievances Inquiry Committee*, Part II, pp. 17 and 75.

³ Howard, Sir Herbert, *Post-War Policy for India*, p. 45.

unsuitable for cultivation of crops but would grow certain types of trees supplying the needs of the rural community for forest products. As has been seen earlier, forests under the Revenue Department are mere pastures and are subject to excessive unregulated grazing by an unduly large number of animals. As such they neither fulfil the general functions as forests such as preventing soil erosion and exercising a regulating influence on climate, nor do they serve as sources of fodder supply to the cattle of the farmers. It will, therefore, be necessary to consider these areas also for the purpose of converting them into village forests and thus utilizing them better. Besides, in the southern sub-divisions of Surat there are large areas under grasslands in private ownership which, besides fodder, yield a little *babul* wood and there is great scope of raising forests on them so that in addition to these two they may supply other forest products. While attempting progress in this direction attention should be concentrated on the paramount need of creating small woodlands in the midst of cultivated areas in the villages so that the farmers can meet their requirements of forest products in time and without difficulty. The paucity of transport facilities and the heavy cost of removing fuel and other minor products of use to farmers result in many forest products remaining unutilized.¹ This can be remedied to some extent by creating facilities of cheap transport. The plan of creating woodlands in the midst of villages or groups of them, however, will be the ideal solution of avoiding wastes which arise when the forest areas instead of being dispersed are concentrated in certain areas only.

CULTIVATION

We shall now pass on to the consideration of land under the plough. The table on p. 47 gives the relevant quinquennial averages for all classes of lands for the periods ending 1914-15, 1924-5 and 1934-5, as also the averages of similar statistics for the three years 1940-1 to 1942-3.²

§1 Current Fallows. The table will show that the average area left as current fallows during 1940-1 to 1942-3 was 3,47,119 acres out of the total of gross cropped area of

¹ *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, pp. 145 and 153.

² For similar recent statistics relating to the districts of Gujarat see Table I at the end of this chapter.

CULTIVATED AND UNCULTIVATED AREA OF BRITISH GUJARAT, 1910-11 TO 1942-3
(*In thousands of acres*)

Period	Gross cropped area	Of which current fallows	Net cropped area	Of which double cropped	Uncultivated area	Area not available for cultivation excluding forests
Average, 1910-11 to 1914-15	44,90	14,55	30,35	1,49	4,15	11,73
Average, 1920-1 to 1924-5	47,90	7,60	40,30	1,31	2,87	11,62
Average, 1930-1 to 1934-5	48,13	4,69	43,44	2,19	2,63	11,84
Average, 1940-1 to 1942-3	48,45	3,47	44,97	1,50	2,52	11,74

48,45,076 acres indicating that for every 100 acres of cropped land there were nearly seven acres left to be idle every year. The average area left uncultivated every year for the quinquennial ending 1914-15 was 14,54,428 acres out of a gross cropped area of 44,89,769 acres. Thus nearly 30 years ago about 48 acres were left fallow annually for every 100 acres on which crops of some kind or other were raised. Either on account of the increase in numbers dependent on land or the improvement in the practices of tillage or both, a great reduction in the area left fallow every year has been achieved. The main purpose of keeping lands fallow is to enable them to recuperate their fertility exhausted by repeatedly raising crops on the same soil year after year. This course may partly be necessitated on account of want of manure. Sometimes, as a result of poverty or idleness or both, the farmers, especially in the backward parts, in a cycle of eight years, raise grass for about six years and grow crops only for about two years¹. It is also not quite unlikely that the farmers who command inefficient agricultural stock and labour are unable to cover the lands they own in the nick of time when the season sets in and are forced, out of necessity, to leave some area idle. The more important reason, however, appears to be the fact that as over 97 per cent of the area raising of dry crops is the rule, application of manure, which is not fruitful without water to help the soil to assimilate its rich elements, is not a practical possibility. The lands on which dry crops are grown remain idle for the greater part of the year even when crops are raised during which they partly regain their fertility. But repeated cropping consecutively for many years results in slow but considerable exhaustion and hence the prevalence of the practice of fallows in rotation. The long-drawn-out experience and close observation have brought out the necessity of raising only light crops at intervals even on irrigated lands. For instance, farmers in Surat have found that, in spite of heavy cow-dung, castor-cake and green manuring, after raising mixed root crops such as *suran* and *ratalu*, consecutively for two years, it is necessary to raise only light crops such as broadcast paddy of *kavchi* variety and *tur* mixed in the third year to ensure bumper and regular harvests of irrigated crops.

¹ *Report of the Pardi Taluka Economic Inquiry Committee* (1926), p. 31

§2 **Multiple Cropping.** It will be found from figures given earlier that although the gross cropped area in Gujarat rose appreciably during the last three decades, the absolute figure of acreage on which two or more crops are raised remained more or less constant. When taken in relation to the net cropped area it will be found that double cropped area which formed 4.9 per cent of the net cropped land during the quinquennial ending 1914-15, fell to 3.3 per cent on an average for the three years 1940-1 to 1942-3. When the need for a policy of intensively utilizing land is great in view of the rapidly increasing population dependent on agriculture, the percentage decline in the system of double cropping would appear disappointing. This is mainly due to certain limiting factors that are at work. Rice beds are one of the varieties of land on which it is possible to raise a *rabi* or winter crop, usually of pulses, after paddy is harvested. Separate figures are not available for *kyari* lands but it may be stated in general that they are mainly concentrated in the southern sub-divisions of Smtat. The probability of a second crop, however, depends upon timely and adequate late rains which would enable ploughing and sowing of rice fields again. Failure or inadequacy of last showers leads to great fluctuations in double cropped area from year to year.¹ Paddy is also grown in rice beds in Ahmedabad, the Panch Mahals and Matar taluka of Kaira to some extent but on account of insufficient rainfall, the rice crop itself requires artificial irrigation towards the close of the monsoon and not much scope exists to raise a second crop on the paddy fields in these districts. The present position of irrigation farming in Gujarat agriculture and the scope of its future expansion will be discussed later. Suffice it to say here that want of adequate water supply or unsuitability of soil or water for irrigation cultivation makes appreciable progress of intensive farming through multiple cropping very difficult.

opped more than once for the years
1935-6 to 1942-3 show how acreage under multiple cropping varies from year to year

Region	1935-6	1936-7	1937-8	1938-9	1939-40
British Gujarat	1.90	1.74	1.91	1.56	

(000's acres)

§3 **Uncultivated Land.** A steady decline in the uncultivated area from 4,14,644 acres to 2,52,476 acres during the period under review or a fall of 39.1 per cent would show how more and more areas of land on the margin came to be utilized with uninterrupted additions to the numbers dependent on agriculture from decade to decade. Separate figures of the extent of cultivable waste lands are not available except for the years 1940-1 to 1942-3. As will be found from the table on p. 47 out of the total uncultivated average area of 2,52,476 acres for these years, 1,11,331 acres or nearly 43 per cent are cultivable. This may create an impression that the possibilities of extending cultivation to virgin lands, presuming other factors to be favourable, are not altogether exhausted. This impression is illusive. Below are given two sets of figures of percentage increase in population from decade to decade and additions to cropped area during the corresponding periods.

Period	Percentage increase in population	Averages for periods	Percentage increase in cropped area
1911-21	2.4	1914-15 to 1924-5	30.6
1921-31	10.0	1924-5 to 1934-5	9.6
1931-41	18.1	1934-5 to 1942-3	1.9

It will be found from these figures that while the rate of the growth of population has increased progressively, that of the cropped area has slowed down. The latter phenomenon may be due either to the unprofitable nature of bringing virgin soil under the plough under existing circumstances or may arise out of defective classification of cultivable wastes, the acreage of which may be less than what is actually shown. Even as it is, the area of cultivable land lying unutilized is very limited except only in the Panch Mahals¹. If these statistics are some sort of a guide, it will be realized that new avenues of support for the rapidly rising tide of rural population will have to be sought elsewhere than in extension of ploughed lands.

¹ See Patel, A. D., *Indian Agricultural Economics*, pp. 28 and 165.

§4 **Land Reclamation.** Fairly good areas of land along the western coast in Gujarat remain permanently under the tidal influence. Others are covered by sea water only during high tides. There are also some lands which come under the indirect influence of sea water and suffer in fertility or become totally unsuited to grow any crop. In Olpad taluka, for instance, there are fields which can produce only one crop of paddy and any attempt to raise a *rabu* crop on them jeopardizes the chances of the *khari* crop the following monsoon as salt is brought to the surface by frequent ploughing¹. It is obvious that it is not possible to improve the areas covered by sea water during tides all the year round and raise crops on them. This, however, should not lead us to the conclusion that the construction of protective works to check the inroads of tide water would be a waste of funds. In fact, by limiting the area covered by sea water to the first category through masonry or non-masonry works it will be possible to utilize the remaining two classes of lands fully. In addition, the salt particles that fly from the lands frequently covered by sea water when the surface dries up settle on cultivated fields and deteriorate, in consequence, the quality of the soil². Efforts in the past both by private agencies and the Public Works Department have shown that there are great potentialities of development in this direction³. Before any further measures are undertaken, it will, however, be necessary to examine the possibilities of reclamation projects both from the economic and engineering points of view.

§5 **Cultivated Land.** For British Gujarat as a whole the cultivated area was 44,89,769 acres during 1910-11 to 1914-15 and 48,45,070 acres during 1940-1 to 1942-3 on an average. We shall now examine the various crops grown on it and the relative importance of each crop.

FOOD CROPS

§1 **Cereals.** Rice, wheat, *bagri*, *jowar* and maize are by far the most important cereals raised in Gujarat although there are others of minor importance also grown in certain isolated areas. The table on p 52 gives quinquennial averages of areas under

¹ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp. 180-1.

² *Revision Survey Settlement*, Jalalpor Taluka (Surat), p. 4.

³ *ibid.*, p. 3. *Second Revision Survey Settlement*, Chorasi Taluka (Surat), p. 55, *Revision Survey Settlement*, Bulsar Taluka (Surat), pp. 10-11, and Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 178.

various cereals in British Gujarat for periods ending 1914-15, 1924-5 and 1934-5 and the averages of three years 1940-1 to 1942-3 ¹

Period	Rice	Wheat	Bajra	Jowar	Maize	Ragi	Other cereals and pulses	Fruits and vegetables
Average, 1910-11 to 1914-15	2,76	1,90	4,19	5,35	1,15	76	4,81	79
Average, 1920-1 to 1924-5	2,72	2,12	3,70	6,09	1,51	87	4,69	1,13
Average, 1930-1 to 1934-5	3,69	3,11	3,41	6,41	1,31	94	6,13	23
Average, 1940-1 to 1942-3	3,46	3,23	1,59	6,63	1,34	73	5,42	30

(In 000's acres)

Paddy covered 3,46,301 acres or 7.4 per cent of the cropped area on an average during 1940-1 to 1942-3. Although the aggregate area under paddy increased, there has been a slight decline relatively in its cultivation as during the quinquennial 1910-11 to 1914-15 the area under the cereal was 2,76,316 acres or 6.1 per cent of the cropped area. Paddy is produced on *kyari* lands in the southern sub-divisions of Surat, on the Hathmati and the Khari canal areas in the Ahmedabad district and Matartiluka of Kaira and in the eastern sub-divisions of the Panch Mahals. In the western portion of the Panch Mahals and the Kanam region of Broach there is some cultivation of broadcast paddy mainly with cotton. Elsewhere it is not a crop of any significance. The paddy crop in Surat depends exclusively on rains, while in Ahmedabad, Kaira and the Panch Mahals besides rain water, there is canal irrigation to some extent in the closing phases of the monsoon.

Wheat was grown over 3,23,108 acres or 6.9 per cent of the cropped area during 1940-1 to 1942-3. Unlike paddy, cultivation of wheat gained in importance as during the quinquennial 1910-11 to 1914-15 the area under the crop was 1,89,525 acres or 5.9 per cent of total area under the plough. It is grown

¹ For similar recent figures relating to the districts see Table II at the end of this chapter.

in abundance in the *Bhal* tract of Ahmedabad, the Matar taluka in Kaira, eastern regions of the Panch Mahals, Vagra taluka and Hansot Mahal of Broach and Olpad taluka of Surat. Except in the Panch Mahals and Ahmedabad where some areas under it are irrigated, wheat is mainly a dry crop. In parts of Surat region and over fairly large areas in the Matar sub-division of Kaira, wheat is a *rabi* or second crop. In other areas, besides being a dry crop, it is also the main crop.

The area under *bajri* increased from 4,18,907 acres during the quinquennial 1910-11 to 1914-15 to 4,58,728 acres for the three years 1940-1 to 1942-3 on an average. But the proportion of land under *bajri* to total cropped area fell from 13.1 per cent to 9.8 per cent over the same period. *Bajri* is commonly grown with *tur* or some other pulse, sesamum or cotton and its cultivation is confined to Ahmedabad, mainly Viramgam taluka and Kaira district.

Jowar was cultivated on 5,35,156 acres or 16.8 per cent of the cropped area during the quinquennial 1910-11 to 1914-15 and on 6,62,425 acres or 14.2 per cent of the cultivated lands during 1940-1 to 1942-3 on an average. Cultivation of *jowar* is important throughout Gujarat but in Kaira the acreage under the crop is small as compared with other districts. It is a dry crop usually rotated with cotton on the black soil.

Like most of the cereals, cultivation of maize also declined in relative importance during 1910 and 1943 although the acreage under it slightly increased during the period. The area under maize during 1910-11 to 1914-15 was 1,14,558 acres or 3.6 per cent. During the three years 1940-1 to 1942-3, maize was grown on 1,33,205 acres or 2.8 per cent of the total cultivated area. Cultivation of maize is mainly concentrated in the eastern sub-divisions of the Panch Mahals and the Modasa mahal of Ahmedabad and is predominantly undertaken by the backward Bhil farmers.

Among the other inferior cereals it is necessary to mention *kodra*, *ragi*, *naghi*, *banti* and *baito* which are consumed by the poor and backward classes of the population and grown by inefficient and backward class peasants and agricultural labourers, more usually on small pieces of land or on the courtyards to make additions to the foodgrains required for consumption.

§2 Pulses. Detailed figures of important pulses are not available. It would be sufficient, however, to point out that the important pulses grown in Gujarat are *val* in the Surat district, *tur* mainly in Kaira, Broach and the Panch Mahals and *Surat*, gram for the most part in Broach and the Panch Mahals and Ahmedabad and *lang* in Broach. Pulses are grown either as a second crop as in the case of *val* in the rice beds in Surat and gram on lands raising paddy in Broach and Panch Mahals and Ahmedabad, or as one of the mixed crops, as is the case with almost all other pulses. The common practice of raising *tur* and *lang* is to sow them mixed with one or more of the crops such as *bagri*, broadcast paddy, cotton and *jowar*. Pulses being leguminous crops, during the process of growing, their plants add nitrogen to the soil and replenish its fertility.

§3. Fruits and Vegetables. Out of gross cropped area of 48,45,076 acres during 1940-1 to 1942-3, only 30,170 acres or only about 0.6 per cent were under fruits and vegetables. In view of the different classifications adopted from time to time,¹ the areas returned under these crops differ widely and hence a comparison would not enable us to judge the correct tendency. But one fact stands out clearly. The area under these important crops is very meagre. There are a number of factors on which production of fruits and vegetables depend, some of which are the suitability of soil and climatic conditions and the availability of facilities for irrigation. Market for quick disposal of these perishable commodities and easy access to them by means of good communications are the chief determinants of the extent of cultivation of these crops. The population of important towns and cities of Gujarat constitutes the main body of consumers of fruits and vegetables produced in the region except mangoes and pomegranates which are sent to more distant places. As a result we find that these crops are raised in areas which have easy access to these markets and thus ensure their quick disposal. Bombay can become an important market for fruits and vegetables but the heavy cost of transport and absence of special arrangements to carry these commodities swiftly are great handicaps. In common with all agricultural produce, absence of an efficient marketing organization is also a grave obstacle, but we shall deal with this aspect separately.

¹ *Agricultural Statistics of India*, Vol. I, 1912-13, p. 151 n.

NON-FOOD CROPS

The statement below sums up the position of different non-food crops in British Gujarat during 1910-43¹

Period	Cotton	Tobacco	Sugar cane	Groundnuts	Sesamum	Castor seeds	Other non-food crops
Average, 1914-15	7,69	31	4	1	64		96
Average, 1920-1 to 1924-5	10,18	45	4	25	69	37	43
Average, 1930-1 to 1934-5	10,29	71	4	98	77	34	
Average, 1940-1 to 1942-3	10,43						

(In 000's acres)

It will be seen that cotton today occupies the most important place in this type of crop. Out of a total gross cropped area of 48,45,076 acres during 1940-1 to 1942-3 in Gujarat, 10,42,182 acres were under cotton. In all the districts except Kaira this crop covers the largest acreage. Even in Kaira about 79,550 acres were under cotton. Although the expansion in its cultivation during the last 30 years has been considerable in all the districts, the proportion of area under the crop which was 24.1 per cent of the gross cropped area for the quinquennial ending 1914-15 declined to 22.4 per cent of the gross cropped area during 1940-1 to 1942-3. Cultivation of groundnuts is next in importance to that of cotton. The chief groundnut producing areas are the western sub-divisions of the Panch Mahals and north-eastern portion of Kaira although in other parts except Surat fairly good areas are under it.

Cultivation of groundnuts was almost non-existent thirty years ago, but during 1940-1 to 1942-3 the area under it formed 2.3 per cent of the gross cropped area.

The third important non-food crop is tobacco which occupies 2 per cent of the gross cropped area. It is mainly grown in Kaira district both as dry and irrigated crops although as a money crop, it is also important in the *bet* lands of the Narbada river in the Broach district. The percentage of average area under tobacco to gross cropped area for the quinquennial ending 1914-15 was less than one. The phenomenal expansion in the

¹ For similar recent figures relating to the districts see Table II at the end of this chapter.

area covered by it to 2 per cent is mainly confined to Kaira district

Like tobacco, cultivation of sugarcane is mainly confined to Surat and the western sub-divisions of the Panch Mahals. There has been some expansion in sugarcane cultivation and the area under it rose from 3,735 acres to 4,506 acres. Dependent as the crop is on the availability of irrigation facilities and the capital equipment of the farmer, the area under it is bound to be small.

Sesamum is generally a mixed crop and is important in Ahmedabad, Broach and the Panch Mahals and Kaira. Similarly castor seed is also sown along with other crops, except in respect of very inferior soil where it is the only crop. The acreages under sesamum and castor seeds are next to tobacco. Areas under them fluctuate considerably from year to year, but it may be said that there has been no change in their importance in agriculture.

FOOD AND NON-FOOD CROPS

The statement below gives the areas under food and non-food crops in British Gujarat with the percentages they constitute to the gross cropped area for the years 1910-43.

Period	Food crops	Percentage to gross cropped area	Non food crops	Percentage to gross cropped area	Fodder crops	Percentage to gross cropped area
1910-11 to 1914-15	21,71	65.9	9,65	30.3	49	1.6
1920-1 to 1924-5	22,83	54.8	12,41	29.8	6,36	15.4
1930-1 to 1934-5	25,24	55.3	13,65	32.9	6,74	11.8
1940-1 to 1942-3	25,70	55.2	14,31	30.5	6,19	14.3

(In 000's acres)

Food crops were grown over 68 per cent of the gross cropped area in 1910-11 to 1914-15, while non-food crops occupied a little over 30 per cent of the cultivated land. During the last thirty years, while the proportion of area under non-food crops remained more or less stationary there was a notable fall in the percentage of area occupied by food crops. The area under food crops during 1940-1 to 1942-3 was 55.2 per cent of the gross total.

FODDER CROPS

We have just seen that while the area under non-food crops remained more or less constant during the period under study, that under food crops actually declined. This has been largely due to an increase in the area under fodder crops in all the districts although in certain regions a part of the expansion in cultivation of non-food crops might have been at the cost of cereals and pulses¹. During 1910-11 to 1914-15 fodder crops covered 1.6 per cent only of the gross cropped area. Except for Kaira where fodder crops covered a reckonable acreage, elsewhere one per cent or even less of the cropped land was under them. In about three decades, however, there was a rapid advance in the cultivation of fodder crops and during 1940-1 to 1942-3, they covered, on an average, more than 14 per cent of the gross area under crops. The practice of raising fodder crops, commonly *jowar kadab*, is necessitated in Ahmedabad, Kaira, Broach and to some extent in the Panch Mahals which have no grass and grazing lands by the need for making provision of feeding stuff for the cattle. The *kadab* fodder is economical to produce, highly nutritious and is relished by cattle. Regarding Surat and partially the Panch Mahals the situation is different. The areas shown under fodder crops in these regions are mostly grasslands. Particularly in Surat grass produced is of poor quality and hence of not much value as cattle fodder². Lands under the plough have been gradually converted into grasslands partly as a result of want of capital with the farmers and partly because of their lethargy. The backward classes of farmers instead of raising more valuable crops like fruits and vegetables for which these lands are suitable are content with small incomes that accrue from grass and the little *babul* wood the soil yields. The well-developed grass trade lent an impetus to this tendency.

POSSIBILITIES OF READJUSTMENT

Although reliable statistics are not available regarding the quantity of foodgrains imported into Gujarat to feed the population of the region, the food crisis that arose during the last

¹ *Second Revision Settlement* (1932), Bardoli Taluka, p. 6. Chorasi Taluka, p. 5.

² *Report of the Pardi Taluka Economic Inquiry Committee* (1926), pp. 7-8. and *Report of the Bombay Provincial Banking Inquiry Committee* Vol. III, p. 144.

³ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, pp. 147-9 and 433.

war has brought to light the fact that the area is heavily deficit in this regard. This aspect has set all thinking about the possibility and desirability of altering the cropping system so as to give greater prominence to food crops with a view to make Gujarat self-sufficient. In this connexion is also discussed the necessity of increasing the production of fruits and vegetables by expanding the acreage under them so as to improve the nutritional value of the diet of the people and supplement materially the available food supplies. It is indeed a strange paradox, and certainly does not speak favourably of the efficiency of agriculture, that nearly 55 per cent of total cropped area under food crops cannot produce enough to feed the total population and we must proceed to alter this grim fact to whatever extent possible.

The various regional surveys and the observations of settlement officers have conclusively shown that the cultivation of non-food crops bring better returns to the farmers than food crops. This is true, even though some commercial crops like tobacco entail high expenditure both of capital and labour¹. From this point of view, therefore, any attempt to reduce the acreage under non-food crops of a mere 30 per cent of the total area would considerably reduce the cash returns of the farmers.

An attempt to disturb the existing ratio of two groups of crops, besides, is likely to adversely affect the fertility in some and the yields in other cases. In the cotton-*jowar* tract, for instance, too much cultivation of cereals will adversely affect the fertility of the black soil, as, the practice of rotating the crops which reimburse the soil with its fertility from time to time and which experience over a large number of years has established as ideal, is disturbed. In certain other regions like the *ush* lands in Ahmedabad, it has been found that crops such as *bañri* and *jowar* do not flourish and the soils are mainly suited to grow cotton only. The possibilities of a switch-over to the cultivation of other foodgrains have not been attempted, but the tested experience and observations of the farmers of Gujarat who are considered foremost in enterprise, perseverance and intelligence among the cultivators of the country, indicate that the prospects of such an innovation are not bright.

¹ Mukhatyar, G. C., *Life and Labour in a South Gujarat Village*, pp. 89-100, and *Second Revision Survey Settlement* (1942), Nadiad, pp. 32-3, Kapadvanj, pp. 25-7, Thasra, pp. 26-7, Borsad, pp. 25-7, and Anand, pp. 25-6.

No doubt there is some scope for expanding area under food crops in districts like Surat and to some extent the Panch Mahals where large areas are to be found under grass. Some of the grasslands, however, contain lime nodules and cannot be cultivated. In addition, a certain acreage of grasslands is inevitably necessary as such crops do not yield fodder¹.

This being the case, and as the scope to take up cultivable wastes is limited, as shown earlier, the ideal course would be to direct the efforts towards increasing the production of foodgrains as much as possible on the area already under them by means of better seeds, more manure and greater efficiency in tillage.

YIELDS OF CROPS

The table that follows gives the quinquennial averages of yields per acre of important cereals and pulses in British Gujarat for the periods ending 1914-15, 1924-5 and 1934-5 and averages for three years 1940-1 to 1942-3.² A close comparative

Crop	1910 11 to 1914 15	1920 1 to 1924 5	1930 1 to 1934 5	1940-1 to 1942 3
Rice	1,145 2	893 0	1,025 8	819 5
Wheat	510 0	462 1	490 0	428 7
Jowar	771 8	620 0	674 9	599 7
Bayrs	573 8	496 5	504 0	526 6
Maize	740 4	806 9	730 6	694 6
Ragi	1 243 0	990 7	1 067 3	772 0
Kodra	930 6	757 7	795 6	737 5
Tur	491 0	381 2	458 0	364 8
Gram	349 8	364 5	358 7	382 5

(In lbs. per acre)

examination of distribution of crops and their yields in various districts will indicate in a general way that their concentration,

¹ *Revision Survey Settlement*, Jalalporo, p. 6

² The figures regarding yields of foodgrains per acre should be taken with reserve. The circle inspectors, and where the peasantry is enlightened, important farmers in the villages arbitrarily agree upon the *annawari* of crops every year. The outturn of crops are then calculated on the basis of this data and the standard yields arrived at by means of crop-cutting experiments carried out in the past under the supervision of deputy collectors and revised from time to time according to convenience or necessity.

soil and climatic conditions and the exploitation of land to the maximum extent are closely linked up factors

The figures of yields fluctuate violently from quinquennial to quinquennial presumably on account of seasonal variations on which mainly depend the success of the harvests. But if we examine the yields for over 30 years, they display a downward tendency indicating progressively deteriorating standards of tillage. With additions in population dependent on agriculture, land came to be increasingly exploited. In the absence of any substantial improvements in cultivation technique the tendency to diminishing returns asserted itself. Statistics about the outturn of non-food crops of the kind we have for cereals and pulses are not available and hence the averages of yields for them are not possible to compute. But the trends in them regard should not be materially different from those of foodgrains. Crop yields in Gujarat compare very unfavourably with those realized in some of the advanced countries of the world. In the case of a few crops they are even lower than the all-India yields¹

We refer to the various factors that account for low yields at one place or another and it would be enough to point out a few of them here. Undue attention towards the cultivation of non-food crops is very largely responsible for the neglect in cultivation and consequent low yields of cereals and pulses.² Natural disasters, such as floods, frosts and pests, over which little human control can be exercised under existing circumstances, also undermine crop yields. Diseases of plants and insects materially reduce the returns from the soil, but if proper methods are devised through research to fight them, damage can be greatly minimized.³

¹ The following figures are of per acre yields of wheat and rice for Gujarat, India and some of the advanced countries of the world

Country	Wheat	Rice	Country	Wheat	Rice
Canada	972		Japan		2,276
U S A	846	1,469	Egypt		2,153
Argentina	714		India	636	728
Russia	636		Gujarat	429	820
Italy		2,903			

(In lbs per acre)

² Patel, A D, *Indian Agricultural Economics*, p 131

³ Burns, Dr W, *Technological Possibilities of Agricultural Development in India*, p 86

Very little has been done to combat the menace so far. It is not possible to estimate the damage in terms of money. The harm done to blossoms on the *alphonso* mango trees by *choplo* in the early stages is considerable, ultimately reducing the yields of mangoes materially. Further, ginger, *khajuria* variety of sugarcane and pepper, which were important garden crops in Surat less than a decade ago, cannot now thrive on account of some root diseases. It is imperative that this disastrous development is curbed forthwith through all conceivable measures, but it has attracted no attention from official quarters so far.

CROPPING SYSTEM

It is necessary to say something about the order in which crops are raised and its relation to returns from the soil. Over vast stretches of black land which covers the bulk of the area of the region, cotton and one of the cereals, either wheat or *jowar*, are the main crops commonly sown in rotation. The cotton crop for two consecutive years on black soil is followed by *jowar* in the third year¹. In the *Bhal* tract, however, cotton and wheat are sown alternately². *Bajri* and *kodra* find a place in parts of Ahmedabad and Kaira as mixed crops with cotton. In an appreciable area of this type of land, more particularly in the *Kanam* tract and parts of the Panch Mahals, broadcast paddy and *tur* are sown with cotton. Sesamum and mustard are also raised along with cotton in Surat³. Some area is also set apart every year in turn in Ahmedabad, Kaira, Broach and the Panch Mahals towards cultivation of fodder crops for livestock. Similarly, dry tobacco and *bajri* are raised in turn every year or irrigated tobacco and *bajri* as two crops on the same fields annually in Kaira. When *bajri* is the principal crop other subsidiary crops such as *tur*, sesamum, rape and mustard are also grown along with it. These and similar other minor crops, ripening earlier than the main crop, are also sown along with groundnuts. Paddy cultivated in *kyari* land, especially in Surat, is followed by pulses such as *val*, gram, *mung* and *ulad* as *rabi* crops. The heavily irrigated crops of vegetables, root crops and sugarcane are raised for two years consecutively on the same lands after which light mixed crops of broadcast paddy, *tur*, *val* and *choli*, are grown in the third year with a view to give some rest to the soil and

¹ Mukhatyar, G. C., *Life and Labour in a South Gujarat Village*, p. 75.

² *Gazetteer of Bombay Presidency* (Ahmedabad) Vol. IV, pp. 54-5.

³ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 181.

enable it to regain its fertility. This will indicate that every cereal or major non-food crop is mixed with or followed by pulses and other leguminous crops which by adding nitrogen improve the fertility of the fields (most of the subsidiary crops leave large quantities of dead leaves and stems which also go to improve the productivity of the land). The practice has been improved upon and perfected through years and do not leave much scope for betterment¹. Only in the maize producing areas of the Panch Mahals the cropping system is defective in that maize is followed by irrigated maize or wheat. Instead of cereal and leguminous crops cultivated jointly or in turn, the practice under which cereal follows cereal on the same land leaves no scope for fields to partly recoup their fertility and results in the deterioration of land in the long run².

Another special significance of mixed cropping is in regard to the protection it affords the farmers against total failure of harvest due to the vagaries of seasons by yielding one or more of the crops and thus saving him from privation and suffering³. Besides each of the mixed crops ripens at a different time. Thus harvesting operations connected with all the crops keep the farmer occupied for a considerable time of the year and reduce his period of idleness.

¹ For a proper account of how, in absence of judicious rotation of crops soil gets exhausted, see *Report of the Special Inquiry into the Second Revision Settlements of Bardoli and Chorasi Talukas*, p. 15.

² Burns, Dr W., *Technological Possibilities of Agricultural Development in India*, p. 67.

³ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 324.

TABLE I
AREA CULTIVATED AND UNCULTIVATED, 1940-1 TO 1942-3
(In thousands of acres)

District	Gross cropped area	Of which current fallows	Net cropped area	Of which double cropped	Uncultivated area	Of which cultivable ¹	Not available for cultivation (excluding forests)
Ahmedabad	18,84	2,35	16,49	11	30	7	5,23
Broach and Panch Mahals	14,05	72	12,33	71	147	83	3,15
Kaira	8,65	15	8,49	22	12	12	1,58
Surat	7,91	25	7,66	46	43	8	1,78

¹ Related to 1942-3 only. It is not possible to strike an average as similar statistics for 1940-1 and 1941-2 are not available. The same reason accounts for the absence of information of cultivable waste in other tables.

TABLE II
AVERAGES OF AREAS UNDER FOOD, NON-FOOD AND FODDER CROPS, 1940-1 TO 1942-3
(In thousands of acres)

District	Food Crops						
	Rice	Wheat	Bajra	Jowar	Mauve	Ragi	Other cereals and pulses
Ahmedabad	46	2,25	2,27	3,90	9	3	76
Broach and Panch Mahals	1,08	71	45	1,35	1,21	22	2,29
Kaira	95	18	1,82	36	4	42	1,61
Surat	97	9	5	1,02		6	76
							12
District	Non food Crops						
	Cotton	Tobacco	Sugar cane	Ground nuts	Sesamum	Castor seeds	Other non food crops
Ahmedabad	4,28	5		38	39	9	15
Broach and Panch Mahals	3,31	4	1	87	29	5	14
Kaira	80	84		25	12	6	8
Surat	2,04		4	3	1	4	4
							2,86

CHAPTER IV

CULTIVATION—PROCESSES AND TECHNIQUE

IN the last chapter we have seen that the yields of crops in Gujarat are very poor. This is to be largely explained by the defective technique and processes. In this chapter we shall examine the agricultural practices and technique in vogue at present, and discuss the possibilities of an improvement in them so as to bring our yields somewhere in line with those in other advanced countries.

IRRIGATION

Of all the factors which determine yield, proper irrigation is perhaps the most important. In the programme to increase the productivity of agriculture, extension of irrigation farming must occupy a central place. Besides making possible the fullest use of land and increasing production through intensive farming, irrigation will also offer a great scope for the introduction of superior kinds of crops either from the point of view of returns to the cultivator or their nutritive value or both. Irrigation will also relieve agriculture from most of its dependence on rains. It also will make for the fullest utilization of manures added to the soil. The figures below indicate the difference irrigation farming makes to the yields of crops in British Gujarat. The figures relate to the quinquennial ending 1936-7.

Wheat*		Cotton*		Tobacco*	
Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated
1,300	604	260	134.4	1,109	703

* (Yield per acre in lbs.)

Before undertaking a discussion of the difficulties in the way of introducing irrigation cultivation and the scope for its expansion, we must ascertain the place wet farming occupies in Gujarat. The table below gives the quinquennial averages of the area irrigated during 1910-11 to 1939-40 and the average for 1940-1 to 1942-3. For the sake of comparison corresponding quinquennial averages of net cropped area are also given.

Period	Irrigated area	Net cropped area	Percentage of irrigated to net cropped area*
Average, 1910-11 to 1914-15	1,46	30,35	4.8
Average, 1920-1 to 1924-5	1,05	40,30	2.6
Average, 1930-1 to 1934-5	1,18	43,44	2.7
Average, 1935-6 to 1939-40	1,17	44,02	2.6
Average, 1940-1 to 1942-3	1,23	44,98	2.7

* (In 000's acres)

The table indicates that irrigation cultivation plays a minor role in Gujarat agriculture. The unfortunate tendency on top of this undesirable feature is towards a steady decline in the proportion of land under irrigation farming. The area under irrigated crops which formed 4.8 per cent on an average of the total cultivated area for the quinquennial ending 1914-15 dropped down to 2.6 per cent on an average for the quinquennial ending 1939-40. The beginning of the fall in the proportion of irrigated lands to total area cultivated dates much further back than 1910-11 as in 1899-1900 the percentage of the former to the latter was as high as 6.9¹. There has also been a fall in the absolute area of land under irrigation. From 1,46,094 acres during 1910-11 to 1914-15 it declined to 1,16,523 acres in 1935-6 to 1939-40. The impetus given by the last war through higher prices and the 'Grow More Food' campaign gave a fillip to this type of cultivation, but, as shown by the figures, even as late as 1942-3, the lost ground had not been regained. As in the case of British Gujarat irrigation farming also declined in the country as a whole. Out of 2,081½ lakhs acres of net cropped area during 1910-11 to 1914-15, 435½ lakhs acres or nearly 21 per cent were irrigated. During 1935-6 to 1939-40 the net cropped and irrigated areas were 2,118 lakhs acres and 417½ lakhs acres respectively. Thus the irrigated area was 19 per cent of the net cropped area.

§1 **Crops Irrigated.** The position of irrigated food and non-food crops in Gujarat is shown in the following table

¹ *Report of the Irrigation Commission, 1901-3, Part II, p. 46*

Period	Food crops	Percentage to total irrigated area*	Non food crops	Percentage to total irrigated area*
Average, 1915-16 to 1919-20	1,06	72.9	39	27.1
Average, 1935-6 to 1939-40	80	65.2	42	34.8
Average, 1910-1 to 1912-3	92	71.6	36	28.4

* (In 000's acres)

The figures indicate that food crops have been losing ground in so far as irrigation farming is concerned. From 73 per cent of the area they occupied during 1915-16 to 1919-20, the percentage decreased to 65 during 1935-6 to 1939-40. The trend was only reversed during the last war. Cereals other than paddy and wheat and pulses occupy an important place in irrigation cultivation in Ahmedabad, Kaira and the Panch Mahals. For want of separate figures it is not possible to state the acreage under each one of them. Paddy is the principal irrigated crop in Ahmedabad and northern parts of Kaira, comprising the Matar sub-division. Inadequacy of late rains which is usually common in those parts, necessitates watering to this crop towards the concluding stages of the monsoon. This is resorted to mainly to prevent the failure of the harvest. In the Panch Mahals, although there is a small acreage under irrigated rice, this type of water supply is rarely necessary. In Surat the paddy crop is mainly rain-fed. Wheat is the most important irrigated crop in the Panch Mahals, while in Ahmedabad and Kaira it occupies a place next to paddy.

Separate figures of areas under all non-food crops under irrigation cultivation are also not available. Cotton is the most important irrigated crop in this category in Ahmedabad. In the *Charotar* region of Kaira, tobacco occupies a similar place. Fruits and vegetables and *jowar* for animal fodder are also irrigated in this district. There is some sugarcane cultivation in the western sub-divisions of the Panch Mahals. In the Broach district irrigation farming is almost non-existent except for little vegetables and fruits on isolated patches for home use or local sale. Garden cultivation of fruits and vegetables is by far the most important in Surat, particularly in the Jalalpore, Chukhl,

Bulsar and Pardi talukas and in the villages in the vicinity of Surat city in Chorasī. Sugarcane is the most important non-food garden crop in the southern sub-divisions of Surat.

§2 **Sources of Water Supply** In Gujarat irrigation through wells occupies the first place. For the quinquennial 1935-6 to 1939-40 as many as 91,500 acres out of 1,16,525 acres of net irrigated lands or a little over 78 per cent were watered through this source. Canals, both Government and private, the latter are not of much significance, are the second biggest source of water supply to the fields irrigating 12,205 acres, or slightly more than 10 per cent of the net area under wet cultivation for the same period. Canals do not play a great part in Gujarat. Tanks stand third in order of importance as source of irrigation and 10,362 acres or a little less than 9 per cent on an average for the quinquennial ending 1939-40 were irrigated through them.

Although British Gujarat comprises 13 per cent of the area of the Province only 7½ per cent of the lands watered by Government canals are located in this region. Lands irrigated from tanks in the Panch Mahals and Kaira by means of non-masonry channels built as relief works during famines and in charge of the Irrigation Department also seem to be included under this head.¹ Irrigation by canals fed from stored-up river water is to be found in the regions of the Hathmati and Khari rivers in the Ahmedabad and Kaira districts. As mentioned earlier, these masonry canals mainly supply to the paddy fields when the crop is maturing thus helping to avoid the damage which may result from the absence of final monsoon showers. The Government 'works' also help the irrigation of wheat over a limited area in these two districts and the Panch Mahals. These canals are classed as 'Minor Irrigation Works' and only one-eighth of the total provincial capital outlay on such 'works' is invested in the territory.² In spite of charging Rs 7 per acre for one, and very rarely two, watering which the irrigators are usually able to obtain, these government projects continue to be a losing concern.³

Irrigation through *dhekudis*, either masonry or non-masonry, constructed in the river beds, is in vogue to some extent in Surat.

¹ *Report of the Bombay Irrigation Inquiry Committee* (1938), pp. 3 and 10.

² See Map No. 1, *Report of the Bombay Irrigation Inquiry Committee* (1938).

³ *Report of the Bombay Irrigation Inquiry Committee* (1938), pp. 21 and 69.

where many small rivers and streams are to be found. Elsewhere irrigation through this source is not possible either because of the absence of running water as is the case over large areas raising dry crops in all other districts or because the big rivers such as the Tapti, the Narbada and the Sabarmati from which water can be drawn in this way frequently change their courses and make the construction of *dhekdis* both inconvenient and costly.¹

§3 Methods of Raising Water. It will be of interest to discuss here the means employed in Gujarat to raise water to the surface for irrigation. The following table gives an idea of the kinds of machines and indigenous devices in use for the purpose.²

District	Leather <i>ko</i>	Persian wheel	Oil engines with pumps	Electric pumps for tube wells
Ahmedabad	14,938	219	166	9
Broach and Panch Mahals	266		98	21
Kaira	11,931	750	507	21
Surat	2,549	1,456	866	92
British Gujarat	28,784	2,125	1,437	143

It will be seen from the table that leather *kos* occupies the most important place. Its use is spread over all the districts in proportion to the area under irrigated farming from well water. The Persian wheel and the oil engine follow next in order of importance. Surat has the largest number of Persian wheels in use followed, in order of importance, by Kaira and Ahmedabad. In regard to the comparatively widespread use of oil engines Kaira stands out prominently followed by Surat. In Broach and the Panch Mahals they are in the smallest number concentrated mainly in the sugarcane growing tract in the Godhra taluka. Ahmedabad stands midway between the two groups.

¹ *Revision Survey Settlement, Chikhli*, p. 16.

² As the various agencies for drawing water are exclusively in use for irrigating crops it has not been found necessary to give them separately for urban and rural areas. Further, the use of iron *mhot* is confined to the Deccan for lifting water over small depths and in view of its total absence in Gujarat figures under this head presumably relate to the Persian wheel which is fairly in common use in the region under study and hence have been shown here under the proper head.

A survey puts down that it is possible to water about a third of a *bigha* per day with the *kos* and a pair of bullocks and from three to four *bighas* with a 16 b h p oil engine and a water pump of three inches in diameter. Water has to be lifted over a height of 45 feet in both the cases.¹ The writer's observations in one of the villages in Surat shows that it is possible to irrigate about three-quarter *bigha* in a day with a *kos* and two pairs of bullocks, each pair working alternately in order to afford rest to the other, at short intervals of approximately two hours. With the same number of bullocks and a Persian wheel the area irrigated in a day is nearly a *bigha* on an average. It was also found that with a 13 b h p oil engine and a water pump of 3" × 4", about three to four *bighas* of land can be covered daily. The height over which water has to be lifted is roughly the same as in previous instances, viz. 45 feet. The drawback of the indigenous *kos* and the Persian wheel is that water is supplied very slowly and very often the crops are damaged as a result of either the inability to irrigate them in time or due to failure to put through the required number of waterings in the year. The Persian wheel also exerts a continuous strain on the bullocks during the process of working thus adversely affecting their health and reducing their period of usefulness to the farmers. From the point of view of cost also irrigation by means of oil engine is cheaper than either by *kos* or Persian wheel. On the other hand, by keeping them busy during the greater part of the year, the indigenous water lifting arrangements reduce the period of unemployment both of the farmer and the bullocks to the minimum. Any large-scale introduction of oil engines would mean unemployment of the bullocks and the consequent unfruitful expenditure to the farmers towards their maintenance. It has been contended in favour of the use of oil engines and water pumps for irrigation that such a course would make possible the extension of area under wet farming besides making possible the raising of more than one crop on the same land and the bullocks would thus be fully employed in cultivation and other operations connected with preparing the soil for crops. This is true, but the unevenly distributed rainfall from year to year creates uncertainty about the supply of water for irrigation. In some areas where irrigation farming is important, the defective natural drainage

¹ Patel, A. D., *Indian Agricultural Economics*, p. 57

rapidly removes the rain water from the top soil before it can be soaked up by the land. To a very large extent this phenomenon has been responsible for the sinking sub-soil water level in parts of Gujarat. Where oil engines and pumps have been installed in wells, it has been a common observation that the machines could be worked only for a few hours in the day for want of sufficient water supply to enable their utilization to the fullest.¹ Only where *dhekudis* could be erected in the beds of rivers and streams, as has been done in the southern sub divisions of Surat, it has been possible to run them for the whole day. The widespread adoption of oil engines and pumps for irrigation, therefore, should await plans to make full use of small and big natural water resources. The limited financial resources and the small irrigable lands at the disposal of the bulk of the farmers are some of the formidable hurdles in the way of popularizing mechanized irrigation. Purchase and maintenance of machinery on a co-operative basis may be suggested as a way out of the difficulties.

§4 Decline in Irrigation Farming The main cause of the drop in the area under irrigated crops between 1910-11 and 1939-40 was the high cost of cultivation including the heavy water tax² and the low prices of agricultural produce³ which made this type of cultivation unprofitable. The farmer therefore switched over to raising dry crops which are much cheaper and need far less effort in money, labour and supervision. The progressive decline in the sub-soil water level on which primarily depends the water supply in wells and tanks may be adduced as another reason for decline in the irrigated area.⁴ The table on p. 72 gives quinquennial figures of wells and tanks in use for irrigation from 1922-3 to 1942-3.

It will be noted from the table that wells in use for irrigation did not increase markedly during 1922-3 to 1937-8. By 1942-3, on the other hand, there was a definite fall in their number approximating to the 1922-3 level. During the quinquennial

¹ Patel, A. D., *Indian Agricultural Economics*, p. 55 and from observation in some villages predominantly under irrigation cultivation in the Chikhli taluka of Surat.

² *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II p. 348.

³ See *Revision Survey Settlement, Bardoli Taluka*, p. 6, and also Chairman's note, *Report of the Bombay Irrigation Inquiry Committee* (1938), p. 75.

⁴ Kumarappa, J. C., *Survey of Matar Taluka*, p. 41 and *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, pp. 322 and 424.

WELLS AND TANKS IN USE FOR IRRIGATION, 1922-3 TO 1942-3

District	1922-3		1927-8		1932-3		1937-8		1942-3	
	Wells	Tanks	Wells	Tanks	Wells	Tanks	Wells	Tanks	Wells	Tanks
Ahmedabad	17,273	1,275	18,610		18,470	1,001	17,018		16,768	974
Broach and Panch Mahals	4,594	1,165	4,280		5,654	244	6,514		6,546	140
Kaira	12,282	1,195	12,392		12,163	873	12,480		10,264	925
Surat	7,702	1,986	8,036		8,233		8,690		8,301	1,019
British Gujarat	41,911	4,721	43,318		43,520	3,196	44,722		41,879	3,064

1937-8 to 1942-3 alone no less than 5,080 wells fell in disuse.¹ Besides, it is a matter of common knowledge that in most of the irrigated regions of Gujarat water level in the wells goes down with the multiplication of their number. When water is drawn heavily from some wells, the same consequence ensues in others. This further indicates that water resources in the substratum are limited. The futility of digging more wells for irrigation in the black soil where water is brackish and unsuitable for wet farming should also be realized.² In addition, in the southern sub-divisions of Surat where there is rocky strata below the surface, the proposition to dig more wells proves unduly costly.³

In regard to tanks on the other hand, there has been a considerable decline in the short interval of twenty years. Their number in use for irrigation in British Gujarat which stood at 4,721 in 1922-3 fell to 3,064 in 1942-3. The process of silting up, that has been at work for long, is to a very large extent responsible for this state. As a result the capacity of the tanks to hold water is being reduced by stages and an appreciable area covered by them is left fit enough only to raise *rabi* crops or grow grass and trees.⁴ While removing earth from a tank in the Baroda district with the intention of deepening its bed, it was ascertained that as much as 30 feet of its depth had been silted up.⁵ Efforts to dredge tanks in certain black soil tracts where the need for water is great have produced highly undesirable results. In the process of deepening the beds, porous soil was reached which soaked up most of the quantity of water that accumulated from the catchment areas with the result that such tanks could supply water only for a short time after the monsoon.⁶ The possibility of irrigation cultivation, especially of paddy and *rabi* crops of pulses by means of tanks cannot, however, be altogether discounted in such lands. It should be appreciated in this connexion that the farmers usually do not command the means to maintain these wells and tanks in good condition or to

¹ *Season and Crop Report, Bombay Province, 1942-3*, p. 35. Also see *Second Revision Settlement, Chorasi*, p. 18 and *Bardoli*, p. 24 and *Revision Survey Settlement, Jalalpore*, pp. 86 and 99.

² *Revision Survey Settlement Reports, (1902), Anand Taluka*, p. 3, *Broach Taluka*, p. 8 and *Olpad Taluka*, p. 7.

³ *Revision Survey Settlement Report, Bulsar Taluka*, p. 7.

⁴ Kumarappa, J. C., *Survey of Matar Taluka*, p. 45.

⁵ *Bombay Gazetteer, Vol VII (Baroda)*, p. 19.

⁶ Kumarappa, J. C., *Survey of Matar Taluka*, pp. 43 and 45.

undertake repairs and dredging. The public wells and tanks in charge of local boards and the Irrigation Department are also neglected.

§5 Possibilities of Extension. Before efforts are made to extend irrigation cultivation to improve the financial conditions of farmers, a few important considerations must be borne in mind. First, it is necessary to see that the soils are suitable for wet cultivation. The Indian Irrigation Commission, 1901-3, stated that in view of the extremely absorbent nature of the black type of soil which is by far the most important variety in Gujarat, wet cultivation on it is not possible and if undertaken where well water is available fairly near the surface, is likely to prove expensive because of the large and wide cracks formed in such soil in dry weather¹. Water in these areas also is mostly brackish and unsuitable for irrigation purposes. For this reason a large number of wells in these regions could not be used to raise crops. Besides, appreciable areas in such tracts are victims of water-logging in view of flat surface and defective drainage which would frequently damage the irrigated crops². The salting up of the Gulf of Cambay in which the important rivers of Gujarat terminate and the consequent rise in their beds, the faulty construction of railways, excessive flow of rain water into Gujarat from outside, particularly Baroda territory, are some of the additional causes of water-logging. The drains constructed so far are not adequate and instead of expanding irrigation the problem of the water-logged areas is to free them from the menace by improving upon the natural drainage. Due to these factors about five and a half per cent only of the agricultural lands in Gujarat are irrigable³.

It has been suggested that the small and big natural waterways should also be harnessed and their water utilized for agricultural purposes. The Irrigation Commission of 1901 examined in detail the possibilities of constructing canals to utilize the water of the big rivers, viz. the Sabarmati, the Mahi, the Narbada and the Tapi, for irrigation and expressed the opinion that their high banks and low level of water would involve heavy expenditure.

¹ *Report*, Part II, p. 47 and *Report of the Irrigation Committee, Baroda State* (1929), p. 31.

² *Revision Survey Settlement, Broach Taluka* (1902), p. 11, *Vagra Taluka* (1903), p. 4, *Jambusar Taluka* (1903) and *Viramgam Taluka* (1929), p. 2.

³ Dr. Harold H. Mann's evidence, *Report of the Royal Commission on Agriculture in India*, Vol. II, Part I, p. 16 (vi).

in constructing storage works and canals. In view of the absence of perennial water supply in the Sabarmati, the Mahi and the Tapi, such a financial outlay would be little less than waste, unless the possibility of holding up water by means of huge storage works upstream, either in the hills or in territories which are under other political and administrative jurisdiction, is thoroughly examined. As the water in the Hathmati and the Khari rivers flow only for a limited period in the year, the canals constructed from them have been of only limited utility. In regard to the Narbada, although the supply of water is plentiful the tidal influence greatly reduces its utility for irrigation. The other rivers of Broach also suffer from similar disadvantage. To some extent the Mahi is also under tidal influence. The Irrigation Committee which was recently appointed by the Government of Bombay was pessimistic about the likely benefit from canal irrigation. They stated that in view of meteorological conditions and the existing high intensity of cropping, it was doubtful whether any outlay on the construction of canals would be justified from the point of view of an increase in the value of crops and the revenue that will be realized from such projects.¹ The lands in the regions of these rivers are either uneven in surface or black and thus unsuitable for wet cultivation except that of rice only, particularly on the tract between the Tapi and the Narbada rivers. The cultivation of rice will require deep beds the construction of which will involve heavy initial expenditure. Thus the scope of extending wet farming in Gujarat appears to be meagre.

While discussing the fall in the number of wells in use for irrigation it was pointed out that the sub-soil water facilities are on a decline. To prevent further deterioration and to raise sub-soil water level measures must be taken to prevent the rapid run-off of rain water in regions where well irrigation is important so that larger and larger quantities of it may be soaked by land. Because of the extraordinary variations from place to place in this underground facility, a thorough examination of sub-soil waters, before wells are multiplied, will also be very useful. The other alternative is to carry out deep boring operations in wells and make them independent of the limited supply of water that accumulates below the surface through percolation. This is a

¹ *Report of the Bombay Irrigation Inquiry Committee (1938)*, p. 10

possibility which deserves all attention. For the present, however, efforts to achieve progress on this line will have to be mainly directed towards improving existing tanks and constructing new ones and creating large reservoirs to store up rain water to be used to irrigate crops.

Dhekudi cultivation has been taken up in Surat by digging masonry or non-masonry wells in river beds and by building permanent *pucka* dams or temporary *katcha* bunds across the streams to store up water where facilities of suitable soil and water supply are at hand. There are further possibilities of utilizing water of numerous small streams in the Bulsar and Pardi talukas either by means of *dhekudis* or small canals to develop irrigation farming.¹ In the latter sub-division large blocks of lands have gone out of cultivation partly on account of the dearth of water and partly due to the poverty of the cultivator.

Supply of manures will have to be assured before wet cultivation can be extensively undertaken. In this regard there would be perhaps little difficulty because the supply of farmyard manure will not fall short of the requirements till 10 per cent of the cultivated area is brought under irrigation farming.² Only, arrangements will have to be made for cheap transport of dung manure from regions where irrigation farming is not a practical proposition³ to regions of wet farming where it can be put to use.

The intelligence and resourcefulness of the farmers, on which to a great extent depends the success of irrigation farming, forms another limiting factor to the expansion of wet cultivation. The presence of poor and backward classes of farmers in fairly large numbers would present some difficulty.⁴ But elsewhere there are intelligent Anavil, Patidar and Kanbi cultivators who also command adequate finance. They constitute a highly favourable factor and will prove a great asset in pushing further irrigation cultivation in the region.

On the whole, therefore, it may be said that possibilities of expanding irrigation are not non-existent and progress in this

¹ *Revision Survey Settlement, Pardi Taluka* (1904), p. 42.

² *Report of the Indian Irrigation Commission* (1901-3), Part II, p. 48.

³ In the *Blhal* tract of Ahmedabad and the *Kanam* region of Bouch where this valuable material is either used as fuel or wasted.

⁴ *Revision Survey Settlement, Pardi Taluka*, p. 42, and Patel, A. D., *Indian Agricultural Economics*, p. 52. Also *Report of the Indian Irrigation Commission* (1901-3) Part II, p. 48.

regard is possible. Rice cultivation on the black soil and other superior varieties of crops elsewhere cannot be called impractical propositions. However, as has been pointed out, preliminary surveys and investigations will be necessary and will be much helpful in laying down proper schemes.

SEEDS

It has been estimated that yields can be increased to the extent of 10 to 15 per cent by the use of improved seeds in the case of certain crops.¹ This will clearly bring out the important role good seeds occupy in adding to the returns from land. In regard to most of the crops the usual practice among the farmers is to keep back the necessary quantities from the harvest for use as seeds in the next sowing season. The more intelligent of them exercise discrimination and lay their hands on that portion of the produce which is superior and free from admixture. Poor and tiny holders, however, have no such choice. The bulk of the backward farmers such as the Bhils, Kohls, Dharalis, Waghris, Dhodias and Naukas, produce so little that the whole of it is either consumed or sold for hard cash. They rely on well-to-do farmers or grain dealers for seeds. It is a practice among some of these classes to hand over the entire crop as soon as it is ready to the money-lender, who is also the landlord in good many cases, for disposal and they borrow from him from time to time both for domestic needs and requirements of seeds. Under both these sets of circumstances the parties who lend the grains are not interested in distributing seeds of good quality or at least even such as would grow. The enlightened Kanbi, Anavil and Patidar farmers, on the other hand, also ascertain previously by experimentation whether the seeds would grow and thus take care to see that the sowings do not fail due to defective seedlings. Partly on account of lack of foresight and partly due to reasons narrated above, the other classes of farmers do not take into account this important consideration with the consequence that sometimes both the land and the farmer remain idle.

Systematic efforts have been made to introduce improved seeds in respect of cotton and tobacco only. The Surat, Broach and Viramgam experimental stations have evolved *Vijaya*, *Suyog*, *Suwag*, B D 8, B D 4, B 9, 1027 ALF and IA varieties to replace

¹ Memorandum on the Development of Agriculture and Animal Husbandry in India, Imperial Council of Agricultural Research, p. 30. Also see *Farmers of Bardoli*, Bardoli Swaraj Ashram Publication No. 1 (1927), p. 25.

the indigenous *Wagad*, *Kamani*, *Rozi*, *Goghari*, etc., varieties¹ The improved varieties are disease-resistant, have staples appreciably longer than those of the older types and yield much higher percentage of lint through reduced proportion of seeds, although the yields of *lapas* are lower than the indigenous varieties they replaced It should, however, be stated that this disadvantage has been largely counterbalanced by the better prices obtained for the new varieties² In the south and middle of Gujarat and parts of Kaira improved varieties have been made more or less universal through the instrumentality of law, while in the remaining area of North Gujarat the better seeds that have been evolved find progressively greater and greater favour with the farmers Efforts to improve upon the results already achieved continue and as soon as the suitability and superiority of new seeds through experiments are definitely established the farmers are induced to replace the varieties grown Similarly the experimental station at Nadiad concentrates on improving upon the indigenous varieties of tobacco such as *Gandru*, *Movadru*, *Pilu* and *Khakhri*, which are mainly used in *bidi* making Suitable strain of the Virginia tobacco that can be used in the manufacture of cigarettes and cigars has also been introduced Its production in Gujarat, however, is still in an experimental stage and is grown in the village of Bajva in Baroda State and on a few acres here and there in Kaira In respect of other non-food crops such as sugarcane and groundnuts and all the important cereals and pulses it may be said that no efforts worth the name have been made, and except for the distribution of small quantities of improved seeds at concessional rates mainly through the Taluka Development Associations, the work has been left largely to individuals Some years ago a disease-resistant high yielding variety of *jowar* was evolved at the Surat farm, but it could not be popularized among the farmers for want of effective propaganda It is necessary to realize that what is wanted in regard to foodgrains is a judicious selection from the local varieties and their universalization over the tracts concerned Efforts to introduce altogether foreign varieties without thorough research and experimentation might prove disastrous Any

¹ *Annual Report of the Indian Central Cotton Committee*, 1943, pp 21-2, 36-7, 65 and 68 Also Burns, Dr W., *Technological Possibilities of Agricultural Development in India*, p 84

² *Annual Report of the Indian Central Cotton Committee*, 1943 pp 36 and 96

losses the farmers may undergo during the process would permanently prejudice them against all new measures

Efforts to evolve improved seeds and to bring their knowledge to the farmers through propaganda would be of little avail unless an efficient machinery for their distribution among farmers is organized. In regard to cotton the distributive function is effectively put through the co-operative cotton sale societies wherever they operate and through the agency of the Government elsewhere.¹ In regard to the seeds of other crops, however, the work is entrusted mostly to the Taluka Development Associations and it should be said that their achievements have been disappointing.² The fault may lie either with the poor response from the farmers, meagre funds and almost exclusive reliance on official initiative and guidance, but the fact remains that these bodies have not even been able to scratch the surface. Although a taluka is too large a unit for intensive work and a limited area comprising a few villages would enable an association to work more effectively, the paucity of good workers, among other causes, restricts the scope for creating more of them on these lines. Today approximately eleven sub-divisions and *petas* of Gujarat are equipped with such associations.³

MANURING

The more we take from the soil the more we must also put in by way of manure in order to enable the soil to retain its productivity. Efforts to improve yields through wet farming will also have to provide for a proper application of the needed manures by the farmers.

The primary form of manure in use is cow-dung collected in pits near the homes of the farmers. With the bulk of the farmers the quantity of manure available for being applied to the fields is determined by the number of animals kept by them. This is one of the chief causes determining the strength of livestock with the cultivators, at least in those areas where considerable scope for the application of manure exists. It should be pointed

¹ To know the extent of the work, see *Annual Report of the Indian Central Cotton Committee*, 1943, pp. 96-9.

² See *Second Revision Survey Settlement* (1942), Kapadvanj, pp. 4-5, Nadiad, p. 5, Thasra, p. 4, Borsad, p. 4 and Anand, p. 5. Also see *The Annual Administration Report of the Rural Development Department, Bombay Province*, 1941-2, pp. 33 and 35, and 1942-3, pp. 6, 28 and 29.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 398, and *Report on the Working of Co-operative Societies in the Province of Bombay*, 1940-1, p. 42.

out here that the enlightened and resourceful farmers, especially those employed in irrigation farming in Surat and elsewhere where the possibility of applying manures is perhaps the greatest, in addition to purchasing cow-dung from other sources, also send round the farm servants with carts for days during the dry months to collect it from their grasslands and the village commons. Such farmers also arrange to water the dung pits once or twice a year so as to add to the manurial value of the material. Sheep folding is practised by efficient farmers, especially in the *kyari* lands in Surat and to some extent in the Panch Mahals, and yields valuable results. The poor peasants, on the other hand who are always short of hard cash, are forced to sell some of the manure to meet part of their expenditure even though they might know that it might be more valuable to their fields to obtain better crops.

It may be stated in general that where wet cultivation is undertaken and where farmers understand the significance of proper manuring, even after the fullest use is made of the available supply, there is a considerable shortage of the material. At the same time, there has been much waste also. Systematic efforts at collecting cattle urine and utilizing the earth in the cattle byres as manure by changing it from time to time have been wanting. Care is also not exercised to prevent the loss of manure from the pits during the monsoon when the flowing water removes a considerable portion from the top layers which are always open. It is also true that it is not possible to collect the dung left by animals when in search of food. In the Panch Mahals, where the bulk of the peasants are Bhils who have their homesteads on the farms, a part of the wastage of manure on this count is avoided. But elsewhere as village community life has developed and as the habit of living in groups is firmly entrenched, it is not possible to persuade the farmers to settle down on their fields. The all-India estimate of waste of 20 per cent of the annual production of farmyard manure may be true of Gujarat also. The shortage of the material is rendered more acute by its poor quality due to the unsatisfactory fodder for the cattle¹. The use of a portion of cow-dung as fuel is also responsible for its shortage as manure. It has been ascertained that 40 per cent of the annual production of farmyard manure

¹ *Report of the Pardi Taluka Economic Inquiry Committee (1926)*, p. 9

in the country in general is burnt as fuel.¹ In Gujarat, however, the position does not seem to be so serious as that because, as we saw, where it can be used with advantage, the opportunity is usually availed of. The rural surveys that were undertaken in the past also show that the all-India estimate of the use of dung as fuel does not reflect conditions in Gujarat.² On the other hand, in areas where cultivation of dry crops is the rule, scope for the application of manures to the soil is limited and even after a liberal use of dung as fuel, appreciable quantities cannot be put to any use and are wasted. Although this is true of all the cotton tracts of Gujarat, a poignant instance of this phenomenon is provided by the *Bhal* tract of Ahmedabad where heaps of rich manure are wasted year after year. This anomaly of shortage of manure in some areas and its superabundance and waste in others can be remedied by providing cheap transport facilities on easy terms so that farmers of the former areas may supplement their inadequate sources of manure cheaply and those of the latter may earn a modest income from its sale. Methods of manuring dry crops are unknown to the farmers, and their evolution through research and experiments is also necessary.

In raising irrigated crops including paddy cultivation, groundnuts and castor-cakes are also in use. The groundnuts decorticating and crushing plants are located mainly in the Kapadvanj taluka of Kaira and the Godhra taluka of the Panch Mahals. The castor-seeds crushing establishments are few in number in view of the small acreage under crop and are largely to be found in Surat. The main difficulty about these industries is that they are mainly located in tracts where dry cultivation is mostly undertaken and where the scope of fully utilizing the cakes is limited, if not altogether absent. As in the case of farmyard manure, therefore, the main problem in connexion with the oilcakes is of transport.

Green manuring is also an important method of improving the fertility of the land. Its use is mainly confined to areas where

¹ *Memorandum on the Development of Agriculture and Animal Husbandry in India*, Imperial Council of Agricultural Research, p. 27.

² Mehta, J. M., *A Study of Rural Economy of Gujarat*, p. 95; Kumarappa, J. C., *A Survey of Matar Taluka*, pp. 35-6, and Patel, A. D., *Indian Agricultural Economics*, pp. 148-9. Also see Voeleker, J. C., *Development of Indian Agriculture*, pp. 101-2.

the supply of water to the soil is plentiful *Sann* or *udad* seeds are sown a little early and when the plants have grown into a fair size they are ploughed in the soil before the principal crop or crops follow. The compost formed by the decay of the foliages serves as a valuable fertilizing substance. In regard to root crops, the seeds are sown together and the growth is uprooted after some time and spread on the surface. With the frequent watering of the crops, the plants decompose and serve the same purpose as above.

Chemical fertilizers such as sulphate of ammonia and other manures such as bone-meal, salt and fish are seldom used due to their high costs. Some well-to-do farmers who applied chemical fertilizers to paddy and irrigated food crops reported that although some benefit accrued by way of higher yields initially, subsequently crops did not thrive well on the land on which the manures were applied for a year or two¹. This result may be attributed either to the unsuitability of the soil to chemical manures or to defects in its application to land. To popularize their use, it is necessary to conduct experiments and research and guide the farmers in their proper and effective application.

EQUIPMENT OF THE FARMER

The typical Gujarat farmer has been using the same old implements as used by his forefathers hundreds of years ago. In spite of improvements in some types of implements such as the plant puller, *karpī* and *fadako* and the introduction of a few new ones like the iron plough, the equipment of the farmer essentially remains indigenous in nature. His implements are made by local artisans. The census of agricultural stock carried out in 1939-40 showed that there were only 1,233 iron ploughs as against 2,89,484 wooden ploughs or only 0.4 per cent of the total. Similarly for the whole of Gujarat with about 44 lakhs of net cropped area for the quinquennial ending 1939-40 there were only 66 tractors, mainly in the Surat and Kaira districts. One should not, however, jump to hasty conclusions regarding the scope for improvements in technique from these figures. If the agricultural conditions in Gujarat are taken into account, it will be found that the possibilities for further expansion in the use

¹ Similar complaints about soil exhaustion came forth from other tracts also. See *Report of the Sangh State Economic Inquiry Committee* (1942), p. 18.

of quite new types of implements are limited. The iron plough, besides putting undue heavy strain on the bullocks which on account of inferior breeds and diet are unequal to work at it, is also unsuited to reduce the soil into fine texture.¹ Under conditions obtaining in Gujarat the tractors are useful only where virgin lands are to be brought under the plough. In the case of lands already bearing crops, instead of breaking they invert the soil, bring the layer underground on the surface and seriously impair fertility. Poverty and weak draught cattle do not permit the poor and backward farmers, who form the bulk of the peasantry, to maintain implements of necessary size and strength with the result that all their agricultural operations, beginning from tillage to harvesting and threshing, are inefficiently carried out. In the case of the enlightened well-to-do cultivators, however, the draught cattle are of much better quality as also their farm implements and this fact is clearly reflected in their well cultivated fields, comparatively luxuriant growth of crops and their yields. But they constitute a small proportion.

The bullock is almost exclusively in use as draught cattle, although small numbers of cows are also engaged to work as plough animals in Ahmedabad, Broach and the Panch Mahals and Surat and buffaloes are also employed to the same end mainly in the last division.² Only the poor and backward classes of farmers use male buffaloes and cows for agricultural purposes.³ In Ahmedabad, Kaira and Broach farmers generally keep *lankrej* bullocks imported from Kathiawar and Sind. In Surat, however, although in recent years the *Luharia* trader-cum-artisans from Kathiawar have been selling superior varieties to farmers, the local breed is important. The conditions of the life and work in Surat have been found unsuitable to the animals from Kathiawar and in view of the complete alien background, they have not proved suitable for work in the region.

With this background we shall now pass on to the consideration of the relation of the economic conditions of the peasantry with the agricultural stock they maintain. Figures for all types of agricultural implements and other stocks are not available and

¹ Patel, A. D., *Indian Agricultural Economics*, p. 121.

² *Season and Crop Report, Bombay Province, 1939-40*, pp. 114 and 130.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 130; and *Revision Survey Settlement, Pardi Taluka*, p. 38.

we shall confine ourselves to the examination only of draught cattle, ploughs and carts. The table on p. 85 gives the figures under all the three heads for 1915-16 and 1939-40.

It will be seen from the table that plough cattle increased in number for Gujarat as a whole and Kaira and Surat individually, while in Ahmedabad and Broach and the Panch Mahals there was actually a small decline during the period under review. Similarly the number of ploughs also increased by a few thousand. Of all the three items, however, the increase in the number of carts was most phenomenal, there being an increase of over 50 per cent in them as against 1.5 and 15.9 per cent in respect of draught animals and ploughs respectively.

The table below gives the averages of cropped area (in acres) per pair of bullocks in the districts and for British Gujarat as a whole from 1915-16 to 1939-40.¹

District	1915 16	1919 20	1924 5	1929 30	1934 5	1939 40
Ahmedabad	16.8	21.2	22.4	23.8	18.4	27.4
Broach and Panch Mahals	10.2	12.4	12.6	11.6	11.8	14.8
Kaira	12.2	14.8	15.2	14.2	14.2	13.6
Surat	11.6	13.4	13.0	12.8	9.4	12.3
British Gujarat	11.6	15.2	15.4	15.0	13.8	16.8

It will be found that both for the whole of Gujarat and all the districts except Ahmedabad, the cropped area is considerably below twenty to twenty-five acres which have been considered essential to keep the bullocks fully employed and for their maintenance to be profitable to the farmer.² There has no doubt been some improvement in the situation in that the gap between the actual area cropped and that which could be cultivated by a pair of draught animals has been narrowed during the last twenty-five years, but considerable discrepancy between

¹ Figures of net cropped area for the purposes of this table are the quinquennial averages with the years of the censuses of agricultural stock as the last in the groups.

² Kumarappa, J. C., *Survey of Matar Taluka*, p. 73, and Patel, A. D. *Indian Agricultural Economics*, p. 144. Also see Tarlok Singh's *Poverty and Social Change*, pp. 121 and 200.

DRAUGHT CATTLE, PLOUGHS AND CARTS, 1915-40
(In thousands)

District	1915-16			1939-40			Percentage increase or decrease between 1915 16 and 1939-40		
	Draught cattle	Ploughs	Carts	Draught cattle	Ploughs	Carts			
Ahmedabad	1,18	54	20	1,16	59	29	- 1 1	+ 8 6	+46 3
Broach and Panch Mahals	1,82	87	26	1,65	1,10	45	- 9 3	+26 4	+73 2
Kaira	1,04	58	22	1,23	68	34	+18 2	+17 2	+59 0
Surat	1,15	52	34	1,22	54	49	+ 6 0	+ 3 8	+44 1
British Gujarat	5,19	2,51	1,02	5,26	2,91	1,57	+ 1 5	+15 9	+53 9

the two still remains. It has been stated that the small acreage per pair makes for unemployment of the bullocks for a part of the year. To reduce the number of bullocks so that the services of the remainder, which will continue to be kept, may be fully utilized, and the waste in maintaining idle animals avoided, it has been suggested that *sandhal* or the system of mutually exchanging the bullocks among farmers should be widely encouraged.¹ Two factors, however, should be borne in mind in this connexion. An overwhelmingly large number of bullocks maintained by farmers are of indigenous breed and under-sized, most of the farmers having limited means are unable to feed the draught animals adequately. This robs the bullocks of their working capacity considerably and necessitates the maintenance of a number larger than considered necessary. Thus is, doubtless, a vicious circle. Secondly, over vast areas sowing and harvesting operations, by the very nature of things, begin simultaneously with the outbreak of the first showers and the maturing of crops respectively and especially the former has got to be put through quickly during the first phase of the monsoon. Under these circumstances, reliance by a farmer on another for bullocks is highly risky and he has got, therefore, to maintain his own pair.² Only when a farmer undertakes intensive irrigation farming that full employment of bullocks is possible. As, however, cultivation of dry crops predominates in Gujarat it is not possible to engage the bullocks in agriculture all the year round. Full employment of cattle, therefore, should await the expansion of wet farming.

The significance of the unusually great increase in the number of carts to the rural economy should now be examined. The farmers maintain carts to carry manure to the fields, bring home the harvest, take the crops to the market for sale, etc., and also to ply them on hire during the slack agricultural seasons. The latter aspect of the use of the cart by the farmer largely depends upon the area cultivated by him and the extent of his income from farming. The big farmers who are able to make a decent living from agriculture do not usually take to carting even though there may be plenty of leisure. The small farmers with small pieces of land to cultivate are able to find work for the bullocks on the fields during a part of the year only. Their income from

¹ Patel, A. D., *Indian Agricultural Economics*, p. 109.

² *Report of the Sangh State Economic Inquiry Committee* (1942), p. 16, and Kumarappa, J. C., *Survey of Matar Taluka*, p. 21.

farming is also meagre. To find work for the idle draught cattle and to supplement their income, they take to carting as subsidiary occupation, and are able to make welcome additions to their small returns from land. The process of dispossessing peasants of their lands is progressing fast and as a logical corollary of the phenomenon larger and larger numbers of farmers are left with little or no land to cultivate and are driven to occupations like carting or agricultural labour. Thus the increase in the number of carts far from indicating rural prosperity reflects the decaying economic conditions in the country-side¹

LIVESTOCK

§1 **Farmer and Cattle.** Cattle constitute one of the important items of wealth of the cultivator. Of them the draught animals and milch cattle, of which the latter, in addition to providing the former, also add to the farmer's income from dairy products and, therefore, are more important. Cattle in general also perform a very useful function of adding to the fertility of the soil through the farmyard manure which they supply. Their quality and their number have, therefore, great effect on agrarian conditions. The following table summarizes the cattle strength of Gujarat.

LIVESTOCK POPULATION OF GUJARAT, 1915-16 TO 1939-40

District	1915-16	1919-20	1924-5	1929-30	1934-5	1939-40
Ahmedabad	4,87	4,08	4,69	5,29	5,29	4,74
Broach and Panch Mahals	5,42	4,96	5,31	5,65	5,45	5,37
Kaira	4,20	3,79	4,19	4,42	4,62	4,62
Surat	3,77	3,60	3,77	3,92	3,94	3,91
British Gujarat	18,26	16,42	17,96	19,28	19,30	18,64

(In 000's)

Famines and diseases at the close of the last century and during the first two decades of the present century took heavy toll of cattle in Gujarat along with the rest of the country and the enumerations during this period showed

¹ *Revision Survey Settlement, Chikhli*, p. 10

great variations in their number¹ From 1924-5 to 1934-5 the cattle population of Gujarat increased steadily, but experienced a slight fall in 1939-40 There are no reasons to explain the reversal of the trend at the last cattle census Taking the entire situation from 1915-16 to 1939-40 into consideration, however, it will be seen that the cattle population in British Gujarat increased from 18,25,839 in the former year to 18,64,242 in the latter, thus indicating little addition to cattle population over a large number of years Except for 1939-40 separate figures of cattle in the urban and rural areas are not available, but this lacuna is not likely to vitiate our conclusions in view of the fact that over 96 per cent of the aggregate cattle are to be found in the rural areas as indicated by the latest census of agricultural stock In 1939-40, out of 18,64,242 as many as 11,74,274 cattle or 63 per cent of the total were either draught cattle, breeding bulls, buffaloes and cows maintained for breeding or milk production and the bulk of the remaining 37 per cent were young stock under three years of age Of the cows and buffaloes kept for breeding or milk production those which were either dry or had not yet calved numbered 2,47,010 The percentage of useful cattle to total in 1939-40 thus comes to less than 50 Detailed classification of cattle according to age and the purpose to which they are put was not undertaken in census other than that of 1939-40 and, therefore, it is not possible to study this aspect of the problem historically. It is true that the young stock take time to grow and the disparity between the total cattle population and those actually useful, is bound to persist to a certain extent But it will be realized that on account of defective feeding and bad conditions of bringing them up, about the causes of which more will be said a little later, the cattle take an unduly long time to mature As their life is short for these very reasons, they are serviceable to the cultivators for a short time Thus, if improvements are undertaken in proper directions, the farmer will be much benefited

§2. Fodder Supply. In view of the absence of figures of pastures and grasslands, it is difficult to point out accurately the relation between the number of cattle and such lands

¹ Mehta, J M, *A Study of the Rural Economy of Gujarat*, pp 193 4, and Mukhtyar, G C, *Life and Labour in a South Gujarat Village*, pp 128-9

which provide fodder for the cattle, and in that way estimate the adequacy or otherwise of its supply. Commonly, however, areas classed as uncultivated are in use as grazing and grasslands¹ and a comparison of cattle population with such lands would help us to understand this aspect to some extent. The table given earlier shows that in 1915-16, for 18,25,839 cattle there were 4,14,644 acres of uncultivated lands including cultivable wastes for the quinquennial ending 1914-15, the ratio of the former to the latter being 100 : 23. The task of maintaining a uniform basis of comparison is rendered difficult because of the changes introduced in the classification of lands, according to which areas, formerly classed as not available for cultivation other than forests, now seem to be grouped under uncultivated lands including cultivable waste.² As a result of this reshuffle there has been an increase in uncultivated area including cultivable wastes and a more or less corresponding decline in the acreage of land not available for cultivation. There were 18,64,242 cattle in 1939-40 as against 2,56,666 acres of uncultivated land including cultivable wastes for the quinquennial ending 1939-40, showing a ratio between cattle and uncultivated lands of 100 : 14. The rise in population and the consequent increase in the number of persons to be fed from agriculture resulted in encroachment on lands producing cattle fodder for cultivation and brought about an increase in cultivated area on the one hand and a fall in the uncultivated lands on the other.³ If forests under both the Revenue and Forest Departments of 2,71,047 and 2,59,473 acres in the aggregate for the quinquennials ending 1914-15 and 1939-40 respectively (of these, the forests under the management of the former Department are mere pastures mostly while those under the latter provide not only grazing facilities but also supply fodder to nearby villages) are included for the purposes of our calculation it will be found that ratios of cattle to acreage of grazing lands in 1915-16 and 1939-40 on the basis of the quinquennial averages ending 1914-15 and 1939-40 would come to 100 : 37 and 100 : 28 respectively. Although

¹ *Memorandum on the Development of Agriculture and Animal Husbandry*, Imperial Council of Agricultural Research, p. 20.

² *Season and Crop Report, Bombay Province, 1939-40*, pp. 36-7. Compare these figures with those on pp. 40-1 in the *Report for 1938-9*.

³ See Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 10, and Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 158.

the inclusion of forest areas in our calculation has improved the position regarding the available grazing facilities in relation to cattle, there is a counteracting factor which has got to be taken into account. The forests are mainly found in the Panch Mahals and the Mandvi taluka and some areas in the southern sub-divisions of Surat and as such their benefit is not shared by all the farmers of Gujarat. They are accessible for grazing to the cattle of the neighbouring villages only. It is also necessary to take into account the area under fodder crops in order to get an accurate idea of the supply of cattle food. The uncultivated area, forests under both the Revenue and Forest Departments and the land under fodder crops aggregated, on an average, to 7,34,495 acres for the quinquennial ending 1914-15. The ratio of the total cattle population of 18,25,839 in 1915-16 to lands supplying fodder was 100 : 40.2. The cattle population in 1939-40 was 18,64,242 while the average of the total of the area under the three heads for the quinquennial ending in the same year was 11,90,408. The ratio of the former to the latter thus came to 100 : 63.8. In spite of this, as subsequent discussion will show, the situation about fodder supply is not satisfactory.

Private grass and grazing lands are mainly to be found in Surat and the Panch Mahals districts and the common pastures under the Revenue Department are mainly located in these two divisions and Ahmedabad. In Broach and Kaira and to some extent in Ahmedabad grasslands and pastures are not to be found.¹ The private fodder lands are kept under grass and grazed in rotation and are, on the whole, well managed. The village commons, on the other hand, do not serve any useful purpose. Many times they have stony soil and grow poor grass. Unenclosed, unregulated and uncared for they are over-grazed and provide poor grazing facilities.² An appreciable area of common lands is taken up by cart tracts which make the surface devoid of any vegetation. Water-logging of these commons is also not infrequent. These factors taken together show that facilities of grazing and supply of fodder from these sources, besides being unevenly distributed, are unsatisfactory.³ To aggravate this unfavourable situation considerable quantities of fodder

¹ *Report of the Royal Commission on Agriculture in India*, Vol II, Part II, p. 493.

² *ibid.*, p. 483.

³ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 158.

from Surat and Panch Mahals are exported outside Gujarat, further depleting the already limited supply of cattle food. Some paper and cardboard manufacturing factories which sprung up during the last war also consumed valuable fodder in large quantities. The under-feeding due to the inadequate supply of fodder results in weak and under-sized animals. The fodder produced in the southern talukas of Surat is soft and of low nutritive value and the cattle do not relish it much which further goes to rear inferior animals¹. To overcome these handicaps and to procure sufficient fodder for their cattle, the farmers resort to various methods. In Ahmedabad, Broach, Kaira, and to some extent the Panch Mahals, it is a common practice to set apart some lands in rotation every year towards raising *jowar* fodder exclusively, which is given to cattle fresh and also dried and stored for use all the year round. This cattle food is supplemented by grass that grows on the border lands of fields. Particularly in Kaira it is common to leave strips of lands uncultivated on the borders of the field. During the monsoon these lands yield as many as six grass cuttings and materially add to the fodder supply². The poor cultivators with little or no lands use leaves of trees and creepers as cattle feeds, especially during scarcity conditions³.

This system of enclosure rearing or stall feeding,⁴ instead of allowing the cattle to roam on the open pastures in search of food, has enabled the farmers not only to fight successfully the want of grass and grazing lands, but has also resulted in raising by far the best cattle in Gujarat and perhaps some of the best varieties in India as would stand comparison to some extent with the species in other advanced countries⁵. Another favourable effect of this practice has been the limitation of the animals maintained by the farmers to the minimum necessary. Especially in the Kaira district the farmers generally prefer to maintain buffaloes only which are important dairy animals.

¹ *Report of the Pardi Taluka Economic Inquiry Committee* (1926), p. 10, and Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 158.

² Mehta, J. M., *A Study of the Rural Economy of Gujarat*, p. 195. Also see Voelcker, J. C., *Development of Indian Agriculture*, p. 175.

³ Patel, A. D., *Indian Agricultural Economics*, p. 101.

⁴ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part I, p. 416 and Part II, p. 422.

⁵ *ibid.*, Part I, p. 547 and Part II, p. 492.

Instead of keeping cows, which are poor milk yielders, to breed bullocks they prefer to purchase the required draught cattle from outside¹ The unpopularity of the cow with the farmers is, no doubt, due partly to the common belief that this animal requires free grazing which, although beneficial, is not absolutely necessary²

As contrasted with this, in other districts in addition to the buffaloes for dairying, a large number of under-sized and weak cows is maintained by the farmers primarily to ensure a regular supply of bullocks needed on the farm These cows roam about on the wastes for food As the grazing facilities and supplies of fodder are limited, the quantity available to the share of each gets reduced with the multiplication of the animals that share them Both the buffalo and the cow deteriorate in quality and the former yields poor milk both in quality and quantity and the latter breeds only inefficient bullocks Particularly during a month or two previous to the rains the situation about fodder supply becomes critical and the cattle present a pitiable sight, especially those owned by less resourceful farmers³ The cattle which become thin and lean during the eight dry months improve in physique during the monsoon when they get green grazing⁴

§3 *Suggestions to Improve Conditions.* Various ways have been suggested to improve the conditions of fodder supply It has been held that the system of disposing of fodder from the forests by auction should be discontinued and the Government should undertake instead to store and supply it, not only during famines and other scarcity conditions but also ordinarily, to those parts which are generally in short supply throughout or some time during the year For similar reasons, the export of grass should be permitted only after adequate supply needed for the cattle of the region has been guaranteed The practice of utilizing field boundaries for raising grass so common in Kaira deserves every encouragement For this purpose assessment on an area of a field which produces only grass should be reduced and brought to the level of that levied on grazing and grasslands⁵ It has been noted that the small areas of common pastures producing little

¹ Patel, A D, *Indian Agricultural Economics*, pp 103-4 and 106

² *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, p 557

³ *ibid*, Vol II, Part II, p 318

⁴ *ibid*, p 339

⁵ *ibid*, p 318

fodder and fuel maintained by the Government mostly in Ahmedabad, the Panch Mahals and Surat have ceased to fulfil the functions originally in view. The right course to make them useful to the farmers is to enclose them after leaving the minimum necessary to provide recreation and space for exercise to the cattle and hand them over either to village panchayats wherever they are formed or to committees of important villagers to be managed as grass or grazing lands for the common good of the villages concerned.

To store green grass, the dearth of which is keenly felt, to ensure its regular supply all the year round, and to improve the nutritive value of fodder and make it more relishable to the cattle, it has been suggested that farmers in important grass producing areas should be encouraged to maintain silos¹. The farmers are ignorant in this art and they should be trained in it through demonstration. The question of the availability of space if individual farmers, the bulk of whom command small holdings, were to take to ensilage would be a great obstacle to the adoption of this practice. Then again, as the operations connected with ensilage will have to be carried out with hand labour in India, the question of outlay would demand considerable attention, and the possibilities of common silos for villages or groups of farmers and the use of village commons for the purpose, apart from the suggestions about them made earlier, will have to be explored². In some villages where irrigation cultivation is important or where supply of water is easily obtainable, as for instance in parts of Surat and Kaira, a few resourceful farmers grow green fodder of foreign species which is highly nutritive. The popularization of this practice will go a long way in improving the quality of the cattle³. The general adoption of this practice will, however, have to await improvement in existing irrigation facilities.

CONCLUSIONS

Thus our discussion has shown that

(a) The scope for expansion of wet farming in Gujarat is limited

(b) Improved seeds are in use mainly in respect of cotton.

¹ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 483

² *ibid.*, p. 324

³ *ibid.*, p. 483

Efforts have not been made so far to improve the yields of food crops and other commercial crops through the provision of better seeds. Much scope, therefore, exists here for development.

(c) There is a great possibility for fuller utilization of cow-dung and oilcake manures in the region. The greater application of chemical manures must await further experiment.

(d) The equipments of the farmers in Gujarat vary widely. The more advanced classes employ implements which it might be difficult to improve upon. But the equipments of the backward and poor farmers are weak and inefficient. The desirable course here is to improve upon the indigenous implements. New varieties should be introduced only after their suitability has been established.

(e) The cattle of Gujarat are under-sized and under-fed. Better breeding and better feeding will improve their quality to a very great extent.

LAND AND ITS PROBLEMS

THE technique and methods of farming are to a large extent limited and determined by more fundamental factors like the system of land ownership, the interest of the actual tiller in land, the size of the holding, etc. These problems will be discussed in this chapter under Land Tenures, Land Holdings, Tenancy and Land Taxation.

LAND TENURES

The land tenures in British Gujarat present a bewildering complexity. Over a gross area of 65,25,818 acres there are over a dozen different tenures including the ryotwari tenure proper which is operative over a large portion of the region. Except for the ryotwari villages where the Government deals directly with the cultivator, under all the other tenures there exist varying interests between the peasants on the one hand and the Government on the other.

In the history of Gujarat there have been many conquests and consequent changes in the rulers of the land. As a result of these ups and downs and the occurrence of internal feuds and quarrels the intermediate interests of today who were once rulers lost their pristine glory and influence and came to be relegated to the position of mere landlords or zamindars. So long as the chiefs took their grain shares from the land as rulers and not as landlords, the cultivators were practically the landowners and were well off. With the acceptance by the rulers of subordinate positions such as talukdars or zamindars in any form, the cultivators were reduced to a secondary position and their tale of woes began. Some of the tenures other than the ryotwari are Talukdari, *Mehvasi* and *Kasbat* which are virtually Talukdari in form, *Maleki* and *Vanta*.

The *Narvadari* and *Bhagdari* tenures owe their origin to the Marathas who, for the purpose of collecting land revenue, auctioned districts to speculators and they in their turn transferred the villages of the districts to others to carry out the work. These persons were generally unconnected with the villages although sometimes an influential cultivator or the village patel

was included. The *nam* tenures were likewise mainly revenue assignment grants in the beginning but the grantees later on slipped into the position of landlords or overlords.

§1 **Ryotwari Tenure.** A gross area of 49,13,059 acres¹ or 75 per cent of the total is under the ryotwari tenure. The land revenue policy in regard to these lands is based on the system of settlement with the farmers. The Government claim the ultimate ownership of the land, but for all practical purposes the cultivator remains the owner by virtue of the right of transfer, either by sale or gift, alienation and inheritance, subject to the regular payment of assessment. In the event of the failure to pay the revenue, the Government has the right to auction the land of the cultivator to recover the demand. The cultivator, too, is free to relinquish his land if he finds its possession unprofitable. The revenue demand is fixed after field-to-field survey and assessment of the land. It is subject to revision at intervals of thirty years. The rights to trees, to erect farm buildings, to construct wells or tanks and to make improvements on the land are included in the right of occupancy, but the Government reserve to themselves claims on mines and minerals in the land. The cultivator is debarred from putting the land to non-agricultural uses.

Out of the total assessed cultivable area of 24,54,115 acres in 1941-2 under ryotwari tenure, 19,91,568 acres were under ordinary tenure while the remaining 4,62,547 acres were under restricted tenure held mostly by the backward classes such as the Bhils of the Panch Mahals. For example, in 1921-2, of the total Government or *khalsa* lands cultivated in Kalol, Halol, Dohad and Jhalod talukas in the Panch Mahals district, 30, 67, 58, 10 and 71 per cent respectively were under restricted tenure.² The restricted tenure has been made applicable to new, as against existing, occupancies granted after 1900 in the settled villages to rehabilitate the poor cultivators who were dispossessed of their lands during the famines. The holder of the land under the restricted tenure cannot alienate or sell it without the previous permission of the Collector of the district. The aim of this arrangement was to prevent the

¹ *Agricultural Statistics of India*, Vol I, 1936-7, pp 300-1

² *Revision Survey Settlement Reports of Kalol, Halol and Dohad* (1927) p 5, and Jhalod, (1927), p 7

transfer of lands from the hands of the cultivators newly settled on them to the non-agricultural classes

§2 **Zamindari Tenure.** The Talukdari, *Mehvasi*, *Maleki*, *Vanta*, *Kasbati*, *Sarkati*, *Bhagdari*, *Narvadari* and *Udhad Jamabandhi* tenures which will be described later are zamindari in nature, but most of the villages under them are temporarily settled. The lands under these various tenures in Gujarat appear like patches in the ryotwari areas. The total acreage under the temporarily settled zamindari tenures and village communities in 1936-7 was 16,18,426¹ or 25 per cent of the total.

§3 **Talukdari Tenure.** This tenure is mainly found in the Viramgam, Sanand, Dholka and Dhanduka talukas and Ghogha mahal of Ahmedabad, Kaira, Broach and the Panch Mahals. The gross area under this tenure is about 14,33,204 acres out of which 10,61,187 acres are temporarily settled and the remaining 3,72,022 acres are permanently settled.² The area under this tenure is nearly equal to that of *inam* lands and is approximately 50 per cent of the area under the ordinary and restricted tenures. There are now over 500 talukdari villages in these four districts. If villages of Giras chiefs, and *Kasbatis*, *Mehvasis* and *Gamatis* which are virtually talukdari in form are included the total of talukdari villages come to about 600.³ In five sub-divisions of Ahmedabad alone out of 524 there are 320 talukdari villages distributed as follows:⁴

Sub-division	Talukdari villages	Total number of villages in the sub-division
Viramgam	75	147
Sanand	34	68
Dholka	48	124
Dhanduka	108	121
Ghogha	55	64
Total	320	524

In the Panch Mahals there are 27 villages under a single Mehlol talukdari. There are in all 2,470 villages in Ahmedabad, Kaira, Broach and the Panch Mahals. It will be realized from these

¹ *Agricultural Statistics of India*, Vol. I, 1936-7, pp. 300-1

² *The Land Revenue Administration Report, Bombay Province*, 1930-1

³ Mahajan, Y. S., "Khoti and Taluqdari Tenures in Bombay," *Bombay Co-operative Quarterly*, September, 1944, p. 136

⁴ From the *Settlement Reports* of the sub-divisions concerned

figures that the talukdari form of tenure occupies an important place in the region

The talukdari estate is neither a gift from the crown nor held in occupancy. The talukdar has full proprietary rights including the ownership of mines, minerals and trees. The *Naks* of Dohad taluka in the Panch Mahals and the *Kasbatis* of the Viramgam taluka in Anmedabad hold their estates as permanent leases under certain conditions. The talukdari estates pay *juma* or land revenue which may be either *udhad* (fixed in perpetuity) as in the Kaira and Broach districts or may be fluctuating and liable to revision on the expiry of a period not exceeding 30 years. Although from the legal standpoint the *juma* may equal the full survey assessment of the lands in the estates where it is not fixed, in actual fact it comes to about 60 per cent of the assessment on cultivated land and 35 per cent on wastes. The Government revenue from the temporarily and permanently settled talukdari areas came to Rs 10,70,262 and Rs 2,69,780 respectively in 1930-1. The total revenue demand under all non-ryotwari tenures and from the ryotwari agricultural lands of Gujarat in the same year aggregated to Rs 19,32,032 and Rs 71,64,789 respectively. The estates, however, pay local fund cess on the full amount of the assessment. The settlement registers of the talukdari villages are prepared on the lines of Record of Rights in the ryotwari villages.

The Government have, in addition, imposed certain disabilities on the talukdars. A talukdar cannot encumber his estate beyond his lifetime without the permission of the Talukdari Officer and cannot alienate the same without the sanction of the Government. Partition of the talukdari estates on the death of the holder is done by the Collector and not by the civil court. Ordinarily, the Government do not interfere in the internal matters of the estates. It is only when they are partitioned among the heirs or when they are mismanaged that the Government intervenes. The Mehlol talukdari in the Godhra taluka of the Panch Mahals, for instance, has passed under the management of the Government on account of heavy encumbrance and inefficient conduct of the talukdar. The talukdar also bears the cost of the village police.

The talukdars themselves are economically worse off. Except for the Sanand, Gamph and Gangad talukdars which observe

the rule of primogeniture in regard to succession, the bulk of the smaller estates are held on the principle of co-sharing and have thus been reduced in size on account of repeated sub-divisions from generation to generation. The 455 temporarily and permanently settled talukdari estates or villages in 1930-1 were broken up among 2,647 holders or recognized shareholders. The holdings in the temporarily settled estates or villages are much smaller than in the permanently settled ones as indicated below

No. of estates or villages	Area (acres)	Holders or recognized shareholders	Acres per holder or recognized shareholder
132 (Permanent)	3,72,022	203	1,832 6
323 (Temporary)	10,61,187	2,444	434 1

As a result, incomes from the estates dwindled and became insufficient to accord with the established high standard of living of the talukdars. They are in a miserable plight. It is clear, however, that the taluqdars have themselves to blame for their present destitute condition. Most of the estates are very heavily mortgaged and the taluqdars are too backward, indolent and poor to extricate themselves from the clutches of the *bania* who takes all or the lion's share of the crop-share produce by way of interest, dues and repayment of capital. Further, the number of *peta-bhagdars* or sub-sharers is so large that there inevitably results a "fragmentation of income" which leaves each taluqdar barely sufficient to satisfy his needs for the year. In two villages complaints were heard that the taluqdars were in the habit of stealing the crops of their tenants, and the taluqdar of one village had become a bus-driver. A few taluqdars in recent years have been compelled to take up the cultivation of the *gharkhedni* lands still in their possession, but it must be difficult for a class, not traditionally associated with agricultural pursuits, to make a success of its new occupation.¹ This results in attempts by the talukdars to rack-rent the tenants. The lands of the talukdari estates are cultivated by tenants-at-will except for the *Mirasdar* cultivators who have proprietary interest in the soil. The rent is levied either in cash as in Kaira and Broach or in kind as in Ahmedabad. The tenant cultivator is constantly under the fear of being ejected at any time and thus feels always

¹ *The Third Revision Survey Settlement, Viramgam Taluka*, p. 12.

insecure about his position. The talukdar considers himself the chief of his people and considers manual labour as degrading. He lives on the hereditary share from the land cultivated by the tenants. The peasants are subjected to all sorts of harassments. Want of fixity of tenure and the bad landlord that the talukdar makes ultimately lead not only to inefficient cultivation but also to increase in the area of waste lands from settlement to settlement. These have been the fundamental causes of backwardness or absence of development of the talukdari areas in Gujarat.

§4 *Mehvasi Tenure*. This form of tenure exists along the bank of the river Mahi in Kaira, the Prantij taluka and Modasa mahal in Ahmedabad and the Kalol taluka in the Panch Mahals. In Ahmedabad alone there are 38 estates or villages covering 79,467 acres of gross area and owned by 93 holders or recognized shareholders. The *Mehvasi* estates are the few survivors of lands held by the Koli and Rajput chiefs who either occupied ruling positions originally or were mere plunderers during the Mogul times. Most of them were ejected by the Marathas during the process of consolidating their rule and establishing order. The owner in the Kaira district pays a lump sum revenue to the Government and the difference between what he collects from the inferior occupiers of the lands of his estates and what he pays to the Government constitutes his profit. The *Mehvasi* tenure in the villages of the Ahmedabad district where surveys have been carried out resembles the talukdari tenure. The estate holders have no interest in the land and live on the profit. Only in a few estates succession is by primogeniture and in a majority of cases the estates are split into as many equal parts as there are heirs. Among the *Bharyat* chiefs the eldest son is allowed two shares, while with the *Kathis* the female also takes a share in the estate. With the increase in the number of heirs from generation to generation the estates have come to be divided in many parts. The indebtedness of the *Mehvasi* chiefs had much to do with the sale and mortgage of lands and the breaking up of these estates.

§5 *Maleki Tenure*. In the Thasra taluka of the Kaira district there are 27 villages under the tenure which were granted as a reward for military service to the Mohammedan yeomen *Maleks* during the Mohammedan rule. The villages have been surveyed

and settled. The village officers are appointed by the Government on the recommendation of the *Maleks*. The *Maleks* and the Government share the revenue of the villages in proportions varying from seven to nine annas. The *Malek* holders today enjoy all rights to occupy and sublet their holdings subject to the payment of the fixed share of the revenue of the Government, but at the predetermined rent. In addition, the *Maleks* hold rent-free *gharkhed* lands which may either be cultivated by themselves or rented out to parties of their own choice.

§6 ***Sarkati* and *Kasbati* Tenures.** The *Sarkati* tenure found in Gujarat, although not important, virtually resembles the form in which the *Malek* tenure has merged today, with the difference that the proportion of the respective shares of the Government and the holders here vary from ten to six annas.

The *Kasbati* tenure is more or less of the nature of Talukdari tenure. The villages under the tenure are found in the Ahmedabad district, chiefly in the Dholka taluka where there are eleven *Kasbati* villages. The holders originally came in possession of these villages by lending money to kings and standing security for the payment of land revenue.

§7 ***Narvadari* and *Bhagdari* Tenures.** These tenures are the survival of the old joint village community of the pre-British days when each village was an autonomous republic administered by the village community through a panchayat or otherwise. The *Narvadari* tenure is chiefly found in the Kaira district, Anand, Borsad and Nadiad being the three principal *Narvadari* talukas. There are a few *Naria* villages in the Ahmedabad and Broach districts also. The *Bhagdari* tenure is confined to the Broach district. Except for two or three villages in the Ankleswar taluka, all the *Bhagdari* villages are located in the territory of the district north of the river Narbada. The *Narvadari* and *Bhagdari* villages in different districts are distributed as follows:

District	Villages
Kaira	90
Broach	224
Surat	12
Ahmedabad	1
	<hr/>
	327

Under both the tenures the heads of the principal shares of the village or villages are responsible for payment of the revenue of their respective shares, while the sub-sharers, among whom the main shares of the original proprietary cultivators came to be divided in due course, are collectively liable for the allotted Government demand to all the sub-sharers of the common main division. With the increase in number of heirs the sub-shares have also been split up into fragments. The cultivators of lands in the *Narva* and *Bhagdari* villages are tenants of the *Narvaders* and *Bhagdars* respectively. They are either tenants-at-will in which case they cultivate the lands at the pleasure of the holders of the villages, who can eject them at their will and enhance the rent payable by them at discretion, or customary tenants paying customary rent which may be a fraction of the produce, or more usually at the customary rates for the lands decided upon at the time of the original survey assessment and entered in the village books. The common lands in these villages are also divided among the various sharers in accordance with the original registers. There are, in addition, some fields in every *Narva* village which are regularly surveyed and assessed individually. Thus under the ordinary *Narvadari* tenure the lands of the *Narva* village, including the common lands, are divided among the sharers who own and manage the lands of their respective shares, pay the fixed Government demand and are liable to pay also proportionately the share of the defaulting holders. In the other type of *Narva*, known as imperfect *Putdari*, the profits from the common lands are first utilized towards paying the revenue made up according to the rate on several holdings.

The amounts payable by the *Narvaders* and *Bhagdars* to the Government are, however, arrived at differently and this is probably the only difference between the *Narvadari* and *Bhagdari* tenures. The share of the Government in the income from lands of the *Bhagdari* villages is based on field-to-field assessment of all lands. The amount of revenue to be paid by each sub-sharer, however, is not a portion of the total of the assessment of all fields comprising his share, but that fraction of the total assessment of all the lands of the main share of which his sub-share is a part, distributed according to the original (*phalavni*) register. The fields in a *Narva* village, on the other hand, are not assessed individually and the assessment of the entire village is in a lump

sum which is distributed among the various sharers as laid down in the *phalavni* register irrespective of the area held by him

It should be clearly realized that although the nature of the *Narvadari* and the *Bhagdari* tenures have been virtually preserved, the Government have carried out field-to-field assessment and prepared the records so that in the event of a contingency there may not be any difficulty in taking over the villages under these tenures. The Government have also allowed many *Narvaders* and *Bhagdars*, at their own wish, to base their revenue responsibilities on the assessment of their respective shares in place of the old share of the total payable revenue based on the *phalavni* register.

These tenures have neither benefited the *Narvaders* and *Bhagdars*, who are virtually zamindars, nor the tenants who are actual tillers of the lands. 'A *bhag* is a little zamindari oasis in the midst of a rayatwari system and in the varying circumstances that arise, *Bhagdars* and tenants in turn, no doubt, often turn longing eyes on the position of free *Khatedars* the former when they feel the burden of their joint responsibility for an immense property and the latter when they feel the burden of the landlord'.¹ Nor is the tale to be unfolded in regard to *Narva* villages different. 'All the fine masonry wells in Eroo are out of order and the *dab*, a weed which may be aptly called the Nemesis of improvident tillage, holds up its head to reprove the Desai (*Narvadar*), who thinks it beneath him to be a farmer'.² The principal defect with *Bhagdari* and *Narvadari* thus, like all other double tenures in Gujarat, is that they thwart agricultural improvements. The tenants who do not feel security of possession of lands cultivated by them and who are always under the fear of being removed any time do not feel enthusiastic about agriculture. This coupled with the heavy burden of rent and other exactions³ increased progressively the tenant's poverty. Cultivation became inefficient, the quality and fertility of the land fell low and the yields progressively deteriorated. The tenants have no title to the lands they cultivate. Like all other cultivators of Gujarat they are always in need of finance but find it hard to obtain it even for current operations as they are not in a position to advance any tangible security to the lenders.

¹ *Revision Survey Settlement, Jambusar Taluka*, p. 69.

² *Revision Survey Settlement, Jalalpur Taluka*, p. 11.

³ *Revision Survey Settlement, Jambusar Taluka*, p. 47.

The *Bhagdars* and *Narradars* have their own difficulties. They have responsibility, but no rights¹. They are not cultivators and depend upon the tenants for tilling the soil. On the one hand, they are required to pay the Government dues regularly, on the other they find it extremely difficult to recover rents from the tenants. 'Of late years the owners have not been able to realize even the survey assessment.

It is no doubt true that since the famine and the large decrease in population, tenants have been hard to find and some landlords have been taking whatever rent they could get.² The fractionalization of their shares has gone a pace from generation to generation as a result of the increase in the number of heirs to each sub-share. They are under legal disability regarding selling or alienating their shares which they can transfer only to the *Naria* and in entirety. This, however, has not acted as a hardship to the *Narradars* and *Bhagdars* in obtaining credit.

The Government have their own administrative difficulties and suffer financial loss due to the continuation of these tenures. 'The *Naria* villages are the worst paying and the most neglected in the taluka. The Bhathella Desais owing to their influence and cunning have succeeded hitherto in keeping the Government demand at a proportionately low figure which enables them to take less personal interest in the cultivation of the land.'³ The same settlement officer expressed similar opinion about the *Bhagdari* tenure. 'The *Bhag* system affords much scope for evasion of the land tax.'⁴ In course of time the joint responsibility was not strictly enforced and the provision of the tenure came to be evaded by the substitution of 999 years leases. Another method of evasion followed was of entering in the document the whole *bhag* but mentioning only a small area as being in possession.

The only way out is to substitute the ordinary *ryotwari* tenure in place of the *Narradari* and *Bhagdari* systems. A proposal to abolish these tenures was put forward in 1908, but it did not materialize on account of opposition, mainly from Kaira. Despite opposition on sentimental grounds, similar in

¹ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 218.

² *Revision Survey Settlement, Jambusar Taluka*, p. 69.

³ *Revision Survey Settlement, Jalalpur Taluka*, p. 11.

⁴ *Revision Survey Settlement, Jambusar Taluka*, p. 69.

nature to the one from the *Bhagdari* and *Narvadari* holders in British territory, the Government of Baroda have abolished the *Narvadari* tenure in the Petlad taluka in the *Charotar* tract and introduced the ryotwari system in its place. The results of such a policy have been favourable. In addition to the general improvement brought about in agriculture, the efforts of the Government at rural reconstruction have met with ready response from the cultivators after the reform was introduced.

§8 **Vanta Tenure.** Under the Hindu raj in Gujarat several chiefs were granted service estates, but finding them a source of trouble, the Mohammedan and the Maratha rulers who succeeded the Hindu kings ejected most of these chiefs and deprived them of their rights. Only one-fourth of the estate originally granted to them remained in their possession. But very often these estates were reduced in size much below a fourth of the original. They are now known as *vanta* lands. These estates are commonly met with north of the river Tapti and held either by joint families or split up into shares. Some *vanta* lands pay a lump sum revenue while the bulk of them have accepted settlement converting the lump quit rent into *salami* on each survey number. A portion of the village common lands is sometimes liable to pay quit rent (*vanta*) while the remaining is charged the full assessment (*talpad*).

§9 **Udhad Jamabandhi Tenure.** The lands governed by this tenure are liable to *udhad* or fixed cess only. The lands in each *udhad jamabandhi* village are surveyed and the unalterable assessment fixed collectively. In some villages, however, detailed surveys have been carried out and the survey settlement has been introduced.

§10 **Inam Tenure.** There are 206 *inam* villages in Gujarat and the total alienated land including land in the *khalsa* villages is 12,18,553 acres as against 19,91,568 acres held on ordinary tenure and 4,62,547 acres held on restricted tenure. Thus nearly one-half of the fully assessed occupied land or nearly 24 per cent of the total cultivable land is under *inam* tenure.

The *inam* lands may be broadly classified into political and service *inams*. Under the former class may be included *inam* lands granted by the Mohammedan and Maratha rulers and the rights of these holders have been recognized by the Government. In addition to the *inamdars* in possession of entire villages, the *Desais* of the Surat district hold *inam* lands given to them by

the Peshwas for services rendered. The service *inams* can further be classified into *inam* lands granted for rendering service to the village community and others held by parties for their usefulness to the Government. The *Devasthan inam* lands are set apart for the maintenance of a temple or mosque in a village. The Government also had allotted revenue-free or on nominal payment lands to the village artisans such as the cobbler, barber, tailor, carpenter, tanner, goldsmith, blacksmith, etc., to encourage them to settle in the villages and be of service to the village community. The village *vadtamas* and *uthias* are allotted *inam* lands known as *varla* for which they help the village officers in the administration. These *inams* are inheritable provided the heirs also similarly help the Government. There are, in addition, *inam* lands set aside for village officers for the services they render to the Government but the system is not very common in Gujarat. The *inam* lands are either revenue-free or pay nominal assessment although they are all subject to local fund cess on the full assessment. The lands under this tenure are also surveyed and settled and the assessment is revised at regular intervals, although the Government demand remains unaltered.

The *inam* tenure may either cover the whole villages or may be applicable to some fields in the *khalsa* villages only. Different *inam* villages are under different titles. Where the *inamdar* has an absolute title he fixes everything including rent on various classes of land. There are a few villages of this type in Dohad taluka of the Panch Mahals where the *inamdar* fixes the rent.¹ In the case of villages of this type the *judi* or *salam* which the *inamdar* pays to the Government is fixed in perpetuity. In regard to the surveyed and assessed *inam* villages the Government fix everything and the *inamdars* only collect the revenue.² The assessment which is the rent the *inamdar* collects from his tenants is revised at every settlement and also with it the demand of the Government.³

The *inam* villages also present a picture of decadent agriculture. The *inamdars* of the assessed *inam* villages are not interested in agricultural improvement as it would not bring a return. They

¹ The village Vegam in the Surat district is also a case in point.

² The villages of Kharvasa and Majigam in the Surat district are instances of surveyed and assessed *inam* villages.

³ Report of the Royal Commission on Agriculture in India, Vol. II, Part II, p. 345.

cannot enhance rent even if they provided facilities for better and improved agriculture by digging wells, etc. Even though *inam* villages over which the *inamdars* hold absolute title offer scope to the *inamdars* to effect improvements, here again the conditions of agriculture are far from satisfactory. The *inamdars* reside in far-away towns and cities and rarely visit the villages, the revenue being collected for them by the village officers. On account of their extravagance the *inamdars* are financially crippled, and besides want of money, lack the resourcefulness to carry out improvements on the lands. Our discussion has shown that the outmoded system of double tenures in all its forms has long outgrown its existence in a world passing rapidly through kaleidoscopic changes.

LAND HOLDINGS

§1 Size of Holding. One of the greatest impediments to any improvement in agriculture is the unusually small size of the agriculturist's holding which does not enable him to put to full use even his meagre capital resources. This size is being progressively reduced from generation to generation. The following table gives the agriculturists' holdings in Gujarat for 1916-17 and 1942-3 grouped according to their sizes. Because of defective classification it has not been possible to include the acreage of plural holdings within every district owned by agriculturists outside the area. But the acreage under such holdings being small in each district it is not likely to vitiate our conclusions.

Holding	1916-17		1942-3	
	Number of persons	Area ¹	Number of persons	Area ¹
Upto 5 acres	2,09,543	4.65	2,44,103	5.04
Over 5 acres and upto 15 acres	83,613	7.42	84,703	7.32
Over 15 acres and upto 25 acres	20,914	3.92	19,926	3.69
Over 25 acres and upto 100 acres	14,560	5.80	12,757	4.81
Over 100 acres and upto 500 acres	965	1.53	797	1.24
Over 500 acres	57	49	20	18

¹ (In 000's acres)

The table on the previous page shows that holdings below five acres and the area covered by them were 2,09,543 and 4,64,556 acres in 1916-17 and 2,44,103 and 5,04,478 acres in 1942-3. Similarly, holdings above five acres and upto 15 acres and the land covered by them were 63,613 and 7,42,218 acres in 1916-17 and 84,703 and 7,31,350 acres in 1942-3. In view of more or less similar tendency in respect of the remaining groups of holdings over a fairly long period, it is convenient to group them together for the purpose of comparison. Holdings of all classes over 15 acres were 36,696 and the area under them was 11,74,222 acres in 1916-17. The corresponding figures for 1942-3 were respectively 33,496 holdings and 9,91,894 acres of land. Holdings below five acres rose from 63.5 per cent of the total in 1916-17 to 67.3 per cent in 1942-3 while those upto 15 acres increased from 88.9 per cent of the total holdings in 1916-17 to 90.7 per cent in 1942-3. Holdings in the remaining groups fell from 11.1 per cent to 9.3 per cent during the interval. These tendencies lead to the conclusion that on the one hand holdings below 15 acres, and more particularly those below five acres, are on an increase, those above fifteen acres, on the other, are falling in numbers over many years. Besides, there is no appreciable addition in the area of land commanded by the holders in the lowest two groups. The area owned by holders upto 15 acres rose from 12,06,774 acres in 1916-17 to 12,36,038 acres in 1942-3. Actually the average size of holding of holders upto 15 acres fell from 4.1 acres to 3.7 acres during the interval. Further, the average number of acres per holding in all the groups over 15 acres fell from 31.9 in 1916-17 to 29.3 in 1942-3. This indicates that in addition to the progressive splitting up of holdings at the bottom, a continuous process of sub-division is in operation at the top.

The statistics below indicate the progressive decline in the size of average holding for the whole of British Gujarat

Year	Average holding	
	in acres	
1886-7		9.5
1900-1		9.2
1916-17	..	8.1
1921-2	.	7.7
1926-7	. ..	7.6

Year	Average holding in acres
1931-2	6 2
1936-7	6 1
1942-3	6 0

§2 **Cultivated Holding.** For want of complete information it has not been possible to find out the size of the average cultivated holding both for the districts and for British Gujarat as a whole. But as the tendency of renting some lands to enlarge the cultivated area is general among the small agriculturists it would not be wrong to presume that the cultivated holding is larger in size than the owned holding. The results of some Gujarat rural surveys lend support to this argument. It was found in respect of a village in South Gujarat that the average owned and cultivated holdings were 7.3 and 8.2 acres respectively.¹ A similar survey of a taluka in the Surat district revealed that while the average owned holding of an agriculturist came to 7.7 acres, the average of cultivated holding was appreciably higher, viz 11.6 acres.² But this process cannot be expected to amount to much.

§3 **Economic Holding.** The optimum production on the one hand and the maintenance of the cultivator and his family on the other are the two criteria that are adopted in determining the economic size of the holding. Under the former an area that would yield optimum returns under given conditions is put down as the desirable unit of cultivation. Under the latter, a holding that would produce enough to provide maintenance to the cultivator and his family and enable them to live, in addition, in some comfort is regarded as the minimum necessary. The former objective is not possible of attainment under Indian conditions. We shall, therefore, follow the second procedure which takes the aspect of consumption into consideration and looks to maintenance of the farmer and his family as the main criterion of farming. It should be understood that taken in this light the minimum necessary size of the holding is bound to vary according to the nature of the soil and cultivation or crops raised. In the absence of proper farm accounts the task of arriving at the minimum sizes of holdings for different types of lands is onerous. The

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 120

² Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 95

writer's observations during the course of an inquiry in the villages of Gujarat and a few rural studies of the region that have been carried out, however, would be of help. It was noted that farmers with holdings of ten acres and below and raising dry crops could only earn sufficient money income from the sale of the surplus produce to meet the cost of cultivation and had nothing left to meet the expenses on maintenance of the family. Only to the extent farm produce was consumed in the house the family needs were met from agricultural pursuit. It was also found that the farmers who cultivated 20 to 25 acres of dry crop lands or about three *bighas* of garden lands were able to maintain themselves without difficulty. In a village of Surat with abundance of well and tank irrigation a holding of 15 acres comprising three acres of rice lands and 12 acres of *jarayat* lands would be enough for an agriculturist to maintain his family in reasonable comfort. A holding of three acres of garden lands would serve the same end.¹ Where irrigation farming is absent and cultivation of dry crops predominates, as for instance in the *jowar-cotton* tract of the Surat and Broach districts, a holding of about 15 to 20 acres is necessary.² Judged from the minimum requirement about 90·7 per cent of the total holdings in 1942-3 which are not more than 15 acres in size and some more from the next group of over 15 acres and upto 25 acres were uneconomic to cultivate.³

§4 Fragmentation of Holdings. To the drawback of small holdings another evil has also been added. Holdings are not in compact blocks but are scattered in fragments in four corners of the village and sometimes beyond it and at considerable distances from the residence of the farmer. Statistics about the fragmentation of holdings in Gujarat are not available. The results of some of the rural surveys enable us to gauge the extent of the evil. The survey of Olpad taluka of Surat shows that on an

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 113.

² Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 86. Also see Mehta, J. M., *A Study of the Rural Economy of Gujarat*, p. 48 and Mehta, B. H., "Economic Life of an Aboriginal Tribe", *Journal of the University of Bombay*, Vol. II, Part IV, p. 326.

³ To the problem of economic holdings, the really relevant figures are regarding the size of the units of cultivation. In absence of these figures those regarding ownership have to be taken as rough indications. This does not make much difference. Also Mehta, B. H., "Economic Life of an Aboriginal Tribe", *Journal of the University of Bombay*, Vol. II, Part IV, p. 327.

average the owned and cultivated holdings consist of five and six fragments respectively¹. The survey of a South Gujarat village revealed a similar tendency. On an average, each holding was composed of six fragments². The study of the conditions of a village in Mandvi taluka revealed that on an average there were 3.8 fragments per cultivated holding³. These results are very largely similar to the all-India figure of five to eight fragments per holding far flung from one another throughout the village⁴.

The effects of fragmentation are not equal in case of all crops or classes of farmers. Cultivation of rice by its very nature necessitates small beds which may be below one acre in size and thus fragmentation in paddy fields is not as great an evil as in other cases. The problem of fragmentation is also deprived of some of its bad features where the farmers of backward classes live in the midst of their farms in groups of families. Here the fragments of the land cultivated by them are not located at great distances from their dwellings. In addition, fragmentation upto a limit makes for variety in climate and the lands cultivated, and acts as a sort of insurance against complete crop failure due to unfavourable season. The farmer is also able to be self-sufficient to some extent in regard to all his requirements of primary produce as he is able to raise different crops on different pieces of land of his holding.

(1) *Causes of Sub-division and Fragmentation* The ever-increasing pressure of population on land is responsible to a great extent in giving rise to this problem of uneconomic holdings and fragmentation and sub-division. We have already discussed this aspect of the problem in Chapter II. The area that was available for being shared by the increasing numbers has not increased proportionately. In this way the process of sub-division and fragmentation was progressively intensified with the passage of time.

The Hindu and Mohammedan laws of inheritance are also an important cause for the present state of affairs. While the truth of this is indisputable, it should be noted that it is not so much the laws of inheritance as their actual application that should be held responsible for the phenomenon. So long as the

¹ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 103.

² Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 114.

³ Mehta, B. H., "Economic Life of an Aboriginal Tribe," *Journal of the University of Bombay*, Vol. II, Part IV, p. 327.

⁴ Gadgil, D. R., "Problems of Rural Life", *India Speaking*, Annals of the American Academy of Political and Social Science, May 1944, p. 86.

joint family system was unbroken, all the brothers cultivated jointly the lands of their common ancestor. But with the decay of this institution, the property began to be divided equally among all the heirs. The sharers preferred the tangible benefits of equal shares in all fields with varying fertility to the invisible economic advantages of a compact holding.

(ii) *Effects of Sub-division and Fragmentation* The disadvantages of sub-division and fragmentation are well known and may be briefly described. It is apparent that sub-division reduces the size of the unit of cultivation and makes it uneconomic to operate, results in disproportionately low returns in comparison with the efforts put in and makes for deficit economy in farming. Ultimately the land often goes out of cultivation and the farmers are content with the little income from grass and *babul* trees that grow on it. This has happened in one of the talukas in Surat.¹ The fragmented holdings are a great hindrance to efficient and timely cultivation because of the waste of time, money and energy that they entail in covering long distances from field to field. Large areas are occupied by borders and boundary marks of fields which go out of cultivation. The watching of crops in scattered fields is made difficult. In order to avoid the localization of damage to crops by stray animals, farmers are forced to adopt uniform cropping and in this way initiative and enterprise are killed. In particular, fragmentation along with the menace of unattended animals is a great hindrance in the raising of fodder crops.

A factor peculiar to India and some of the east European countries has aggravated the deterioration in the economic conditions arising out of sub-division and fragmentation. Barring the little irrigation farming, over large areas of Gujarat the nature of cultivation, in spite of tiny holdings, is extensive rather than intensive. The countries of Western Europe where the problem of uneconomic holdings is equally acute and where the farmers have adopted intensive methods of cultivation offer useful lesson for the cultivators of Gujarat. As the sub-division of land is to a large extent a concomitant of peasant proprietorship, the possibilities of making farming in Gujarat intensive and efficient through more irrigation facilities, better seeds, more manures, improved implements, etc.,² will have to be fully explored.

¹ *Report of the Pardi Taluka Economic Inquiry Committee*, p. 16.

² For a fuller discussion on European conditions, reference may be made to Warriner, D., *Economics of Peasant Farming*.

(iii) *Preventive Measures.* In order to prevent the process of sub-division from going to the extreme, Government have laid down that in Gujarat fractionalization of dry crop lands below one acre and of rice and garden lands below half acre will not be recognized for the purpose of village records. Apart from the very low limit upto which the restriction will permit partition, it has not prevented the undesirable tendency in any way as private splitting up of lands below the limit continues. A similar rule was adopted by the Government of Baroda under which partition of garden and rice lands below one and a half *bighas* was not to be officially recognized. This rule was circumvented by dividing the survey numbers below the limit and getting them recognized as *pot* or *parki* numbers.¹ The proper limits beyond which partition of land should not be permitted by law in Gujarat is about five acres for dry crop lands, two acres for garden lands and one acre for *kyari*. The limits of eight *bighas* of dry crop land, three *bighas* of garden land and one *bigha* of rice beds adopted by the Baroda Government in 1920 compare favourably with those mentioned above. In the interest of good agriculture such a measure seems necessary, although it may infringe the right of sharing parental property equally. In any case, such a step would not come in the way of all the heirs carrying on joint cultivation which both by saving costs and increasing yield would work to the advantage of all concerned.

It has been suggested as a remedy to prevent the creation of more uneconomic holdings that only the eldest son should inherit the lands of the father and the remainder should be paid compensation in money. As the peasantry in India is poor, the payment of cash compensation would prove a burden much in excess of the financial ability of the eldest son. Besides, such a measure would create a large body of unemployed by throwing a great many people off the land which in absence of alternative employment in the country would create a problem greater than was intended to be solved.

(iv) *Legislative Effort in the Past.* A Bill was introduced in the Bombay Legislative Council in 1927 with a view to preventing further fractionalization and also to bring about consolidation of holdings. It aimed at employing a measure of compulsion to

¹ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, pp. 164-5.

achieve this much needed land reform. The rights of the existing holders of uneconomic holdings were to be respected, but no new sub-divisions were to be permitted. According to the Bill the size of economic holdings was to be determined for each district and all holdings below the minimum were to be declared 'fragmented' holdings. All land transfers subsequently were to be so regulated as to raise as many 'fragmented' holdings to the standard size as possible. To achieve this, the division of lands at the death of a farmer among his heirs was to be under the supervision of the Collector who would see that the partition was not such as would create new fragmented holdings. The main aim of supervision was to provide economic holdings to as many heirs as possible and the remaining were to be paid cash equivalent of their shares in the property. The Bill also provided that where two-thirds of the farmers owning half the area in a region agreed to consolidation the recalcitrant minority was to be coerced into agreement.

The Bill was not passed by the legislature and, therefore, could not become law. Some of its provisions which aimed at preventing fractionalization and bringing about consolidation through some compulsion would have worked to advantage. But the provisions that aimed at creating as many economic holdings—if that word were defined in the sense we have argued—as possible would have given rise to difficulties. Although consolidation of holdings on the basis of an 'economic unit' is the ideal that should be aimed at, under existing circumstances consolidation on the basis of 'original ownership' is alone practicable. For instance, if each farmer were to be provided with a holding of 20 acres, which may be taken as necessary for maintenance in reasonable comforts, out of 3,62,302 landowning cultivators in Gujarat in 1942-3, the area of land under the plough would be enough to supply holdings of the standard size to only 1,06,426 farmers. Briefly put, 29.3 per cent only of the landholding agriculturists would have economic holdings, while the remaining 69.7 per cent would be thrown off the land.

(v) *Voluntary Efforts at Consolidation.* Persuasion and education should be usually employed to induce the farmers to exchange their pieces of land mutually so that each may come in possession of a compact block. Appreciable success has been achieved by the co-operative consolidation societies in the Punjab.

At the end of 1941-2 there were 1,763 co-operative consolidation societies with a membership of 2,18,696 in the Punjab.¹ Recent figures are not available, but upto 1 July 1939, 1,00,229 acres of land were consolidated. Of course, the homogeneity of the soil and the simple system of land tenures were favourable factors to consolidation in the Punjab.

Elsewhere the movement has not attained the desired results. In the Baroda State out of 71 co-operative consolidation societies at the commencement of the year 1940-1, 22 societies were cancelled, 13 were under liquidation and the remaining were stagnant and did no work.² In the U.P. also in twelve years about 67,000 *bighas* split up into 75,965 fragments were consolidated into 7,519 plots. The heterogeneity of soils, variety of tenures, paucity of trained staff and funds and above all the ignorance, conservatism and the extreme love of land of the farmer were the great obstacles in the way of progress in this direction

(vi) *Permissive Legislation.* Permissive legislation was enacted in the C.P. and the Baroda State to bring about consolidation of holdings. In the Central Provinces progress has been satisfactory and by 1937, 13,33,000 acres split up into 24,43,000 fragments were consolidated into 3,61,000 compact blocks under the Consolidation of Holdings Act of 1928. In the Baroda State, on the other hand, the progress was tardy. Between August 1935 and March 1938 only 1,518 survey numbers covering an area of 6,200 *bighas* were consolidated into 435 survey numbers. It will be interesting to note that while the cost of consolidation per acre in the Punjab and the U.P. could only be brought down to Rs 1-15-0 and eleven annas respectively, in the C.P. it has reached a commendably low level of four annas except in 1939-40 when it was slightly higher³

In view of the slow progress of this type of legislation a little compulsion on some such lines as envisaged in the Bombay Bill seems inevitable. But the provision relating to applying

¹ *Report on the Working of Co-operative Societies in the Punjab (1941-2).*

² *Report on the Working of Co-operative Societies in the Baroda State, 1940-1*, p. 24

³ Pantulu, V., *Year Book and Directory of Indian Co-operation, 1942*, p. 477, *Report on the Working of Co-operative Societies, Central Provinces, 1939-40*, and Nanavati, Sir M. B., and Anjaria, J. J., *The Indian Rural Problem*, p. 153

compulsion is very likely to remain a dead letter if its help can only be evoked when the bulk of the farmers of a village or region owning half or more of the cultivated area agree to consolidation.

(vii) *Co-operative Farming.* Consolidation in no case can form a remedy for the existing small size of cultivation which cannot be increased by law. The problem, therefore, requires to be tackled from another angle. Under the prevailing circumstances, co-operative farming would offer a good way out without disturbing ownership in land and the farmer's sentimental attachment to his fields.

Co-operative farming may be attempted in two ways. At one extreme the owners retain control, organization and management of their farming units and co-operate in respect of certain operations aiming to improve efficiency and yield. At the other, individual holdings give place to a joint venture, and co-operation is extended to all field operations from beginning to end. 'Thus the words "co-operative farming" as used at present may mean anything from peasant farming with co-operation in certain directions to complete collective farming'.¹ It is clear that cast in the former pattern co-operative farming could yield only limited results and it would perhaps remain so only in name. It is only in the latter framework, when the owners of small farm units and their family members combine their lands for the purpose of operations, pool their resources and work as a team, receiving wages in accordance with efficiency and sharing profit in the end in proportion to their contribution of all kinds, that fullest advantage of co-operative efforts can be reaped. A period of transition, however, may be essential before the final stage is reached.

Soviet Russia offers a striking instance of how collective farms give rise to prosperous agriculture and peasantry. Under the Tsarist regime the Russian peasants suffered considerably from the shortage of fertile lands and agricultural stock and implements. 'About 30 per cent of the peasants had no horses, 34 per cent had no implements of any kind and 15 per cent were without land of their own'.² The average size of peasant holding was little more than seven or eight acres which was scattered in strips and cultivated on a three-field rotation system. Large

¹ Tarlok Singh, *Poverty and Social Change*, p. 5

² Baraou, Dr N., *World Co-operation, 1844-1944*, pp. 27-8

area of arable lands could not be cultivated for want of capital. Returns from land were meagre and poverty was the rule. During the planning of economic life collective farming was widely adopted. In 1940, there were 2,34,000 collective farms in Russia with a membership of 40 lakhs. On the eve of the German invasion the number of collective farms had risen to 2,40,000.¹ Each collective farm was made up of 1,600 acres and employed 95 peasant families on an average.² Between 1913 and 1937 the per hectare yield of corns rose from 7.5 quintals to 10.9 quintals. The production of corn per head of agricultural population also rose from 8 to 9 quintals to 10 quintals in the two years 1935 to 1937.³ But the advantage of this type of farming is reflected at its best in the increase in total agricultural production as a result of large areas of virgin lands that could be brought under the plough. Production of food crops, cotton and hemp in 1937 were 33 per cent, 200 per cent and 75 per cent more than in 1913 respectively.⁴ An interesting feature to be noted in this connexion is that each member of the collective farm retains a small piece of land for garden and orchard cultivation and a few cattle and fowls and is allowed to dispose of their products in the open market. This arrangement very largely removes the drawback that is usually associated with the absence of private property arising out of state ownership of land. If through education and propaganda and liberal concessions co-operative farming could be popularized in India, it would prove of great advantage.

Co-operative farming has not been given a trial in Gujarat. In 1939-40 the Government of Bombay called for statistics of cultivable waste lands in various districts from the Collectors with a view to appraising themselves of the possibility of rehabilitating the landless farmers on them. An official scheme was prepared for settling such peasants on lands of Zankharia forests in the Broach district. About 3,628 acres of forest lands were to be brought under the plough on a co-operative basis. The Government was prepared to advance loans at 5½ per cent to meet the expenses on cultivation. No assessment was to be levied for the first three years. After ten years the

¹ Dobb, M., *Soviet Economy and the War*, pp. 58-9

² Maynard, J., *The Russian Peasant and Other Studies*, p. 308.

³ Warriner, D., *Economics of Peasant Farming*, p. 173

⁴ Dobb, M., *Soviet Economy and the War*, p. 25

cultivator was to be granted full occupancy rights on condition that the lands they held should not be alienated or partitioned except with the permission of the co-operative society and the Government. Unfortunately the Zankharia scheme did not materialize and the proposed co-operative joint cultivation society was not registered. During 1940-1 proposals were put forward to organize four co-operative farming societies in the Ahmedabad district and one such society was registered in the latter half of 1941. A much desired beginning has been made in this way and its results will be waited with interest.

In the absence of co-operative and collective farms, we had no opportunity to observe the exact economics of the various bases of cultivation. Such an opportunity will soon be provided by the Baroda State. In the Baroda State the entire body of cultivators of some of the villages has been dispossessed of holdings. In regard to them the Government of Baroda have formulated an experimental scheme which has been approved and will be financially assisted by the Imperial Council of Agricultural Research. The aim is to purchase back lands of four such villages and resettle on them the original cultivators. In one of the villages the cultivators will be provided with consolidated holdings. The whole area of another village will be treated as a Government farm and the cultivators will till the lands on a profit-sharing basis. Collective farming will be attempted in a third village, while in the fourth cultivation will be on a co-operative basis. As agricultural conditions in the Baroda State and British Gujarat are similar, the results of these experiments will serve as useful pointer to the system of farming best suited to the region.

TENANCY

§1 **Present Position.** While discussing land tenures it was observed that cultivation by tenants is inefficient and economically harmful to the landlord, the tenant and to the entire agricultural industry. Although cultivation by tenants has been a feature of all the double tenures from the beginning, it assumed serious proportions in the ryotwari areas with the passage of time. In common with the rest of the country the owner cultivator in Gujarat is losing ground and the ownership in agricultural land is gradually passing to a class of people not interested in the soil except for collecting rent. The table on p. 119

gives quinquennial figures for 1916-17 and 1942-3 of owner cultivators and non-agriculturist landholders in Gujarat with the area held by both the classes.

It will be found from the table that in 1916-17 there were 65,279 non-agriculturist holders owning 7,74,389 acres as against 3,29,692 owner cultivators holding 23,90,996 acres. In 1942-3, there were 1,01,328 non-cultivating landowners having 10,66,983 acres of land as against 3,62,306 cultivating landholders with 22,27,705 acres of cultivated land. The area held by non-cultivators rose from 24.4 per cent of the total cultivated lands in 1916-17 to 32.4 per cent in 1942-3 indicating that approximately one-third of the total agricultural lands was in the hands of non-agriculturists. The existence of a large non-agriculturist class into whose hands lands have increasingly passed from peasant proprietors is indisputable. In the Dhandhuka taluka of Ahmedabad 51 per cent of the cultivated area is held by non-agriculturists and a little over 63 per cent of the landowners belong to this class¹. In the Viramgam taluka of the same district non-agriculturist landowners form a third of the total landholders and the area of land held by them is 40 per cent of the cultivated land. The total area leased in the Government villages is as high as 44.5 per cent. Elsewhere also the conditions are more or less similar. An unchecked process of a gradual conversion of a large body of landowning cultivators who are small holders (from 5 to 25 acres) into tenants has been in operation for a very long time. The non-cultivating proprietors of land try to exact as much as possible from the tenants who are thus left with little incentive to improve the land, knowing full well that the landlord will share in increasing proportion through crop share and other exactions the extra fruits of his additional labour².

The available statistical evidence thus shows that the problem of cultivation by tenants in Gujarat is serious and calls for a remedy. The table clearly points out that the non-agriculturists have acquired possession of larger and larger areas of land with the passage of time relegating ownership cultivation to a less important place. An investigation in the conditions of farmers

¹ *Third Revision Survey Settlement, Dhandhuka Taluka, p. 6*

² *Third Revision Survey Settlement, Viramgam Taluka, p. 11.*

in North Gujarat showed that out of 1,065 cultivators examined, 540 or 50.7 per cent were peasant proprietors, 94 or 8.8 per cent were tenants and the remaining 431 or 40.5 per cent were both proprietors and tenants¹ A study of agricultural conditions in Middle Gujarat showed that out of 1,155 farmers covered by it as many as 558, that is 48.3 per cent of the total, cultivated all or some of the lands on tenancy Fifty-one per cent of this number were peasant proprietors, 11 per cent purely tenants and the remaining 37 per cent were partly proprietors and partly tenants² An inquiry on this aspect in two villages in Kaira and two villages in the cotton-jowar tract in Surat showed that out of the total cultivated area 42 and 12.5 per cent respectively were let on lease³ An appreciable number of cultivators has now been driven to such a hopeless condition that they have no interest in the land they cultivate In Table I on p 130 are presented the results of the writer's inquiry Out of 188 representative farmers and artisans and labourers who cultivated some lands in addition to their main calling it was found that as many as 107 were tenant cultivators of whom 26 held land entirely on tenancy and the remaining hired a portion of the area they cultivated The total area cultivated by the owner and tenant cultivators was 5,525 acres and the share of the latter group in it was 1,980 acres Thus about 36 per cent of the cultivated area covered by the inquiry was held by tenants

The problem of tenancy appears to be less acute in the extreme south The results of a survey of conditions in a village in one of the southern talukas of Surat indicated that 77 per cent of the cultivators are peasant proprietors⁴ On the other hand, it has assumed serious proportions in Ahmedabad and Kaira as revealed by recent settlement reports The following table gives the number of owner and tenant cultivators and the areas farmed by them in some of the talukas in Kaira and Ahmedabad which were surveyed in 1941 and 1942

¹ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in North Gujarat*, Indian Central Cotton Committee, p 3

² *ibid*, pp 7-8

³ Mehta, J M, *A Study of the Rural Economy of Gujarat*, p 39

⁴ Mukhtyar, G C, *Life and Labour in South Gujarat Village*, p 119

Taluka	Number of occupants	Area cultivated (acres)	Percentage of total cultivated area	Number of tenants	Area cultivated (acres)	Percentage of total cultivated area
Dhandhuka ¹	407	19,538	49 0	1,243	27,748	51 0
Viramgam	3,106	89,849	45 8	5,481	71,179	44 2
Anand	13,078			23,755		
Borsad	21,644	44,863	47 33	23,324	49,714	52 7
Kapadvanj	16,129	79,464	56 6	12,575	60,753	43 4
Nahad	19,900	66,767	54 0	18,829	56,267	46 0
Thasra	13,823	68,057	56 2	12,097	52,260	43 8

Table II on p 131 sets forth more detailed information for two talukas of Ahmedabad, the third revision of which has recently been carried out. It also unfolds the increasing importance which pure tenancy cultivation is progressively acquiring. It shows that both in the Dhandhuka and Viramgam talukas as much as 58.7 and 44.7 per cent of the cultivated lands respectively are held by tenants.

§2 Causes. The small unit of cultivation coupled with the traditional old methods of farming and vagaries of seasons has made agrarian conditions in India precarious and created a deficit in the farmer's economy. Unable to meet the expenses on his requirements from the income from agricultural pursuit, the peasant was forced to borrow money against the security of land. In case of most of the farmers, once they incurred debts, they could not extricate themselves from the burden. They had, on the other hand, to borrow more and in this way their burden of debt and interest charges continued to pile up. Ultimately the amount proved beyond redemption and the money-lenders took over the mortgaged land. Since the money-lenders were not interested in cultivation themselves, the owner-farmers were allowed to continue as tenant cultivators. The deterioration in the conditions of both the cultivator and the land went on fast apace. Large areas of land passed in this way into the hands of a class not interested in land. The improvidence of the

¹ Figures relate to 12 Government villages in the taluka.

agriculturist has also to share the blame for this sorry state of affairs.

Another contributory factor was the migration from Gujarat of a large number of people, particularly the Patidars and the Kanbis to cities and foreign countries, mainly South Africa, in search of alternative employment leaving their lands behind to be cultivated by tenants. The younger sections of the higher classes in the villages who could have made intelligent and enterprising peasants acquired western education, and began to settle with jobs in the urban areas, and thus with the gradual extinction of the older generation of farmers, increasingly large areas of land came to be cultivated by tenants.

§3. **Systems of Tenancy.** The usual systems of tenancy in common with other regions are cash rent and crop share. It is not possible to assess properly the importance of each, either in the entire region or in different parts. The inquiry, the writer undertook, revealed that out of the 107 tenant cultivators 34 cultivated land entirely on crop share, 53 entirely on cash rent and the remaining 20 partly on both. The inquiries in some of the areas of Gujarat and the survey settlements of various talukas yielded varying results. In the middle Gujarat comprising Broach and the Panch Mahals and the Baroda district, out of 558 wholly or partly tenant cultivators, 36 per cent held lands on cash rent, 53 per cent on crop share and the remaining 11 per cent partly on both the systems.¹ An observation on the practices of letting lands in two villages of Bardoli taluka in Surat showed that the crop share system was practically non-existent and the cash rent was more or less universal.² The Bardoli Rent Inquiry Committee reported that except for the villages inhabited by backward tribes where crop share was common and which distinguished these villages from others inhabited by advanced classes, elsewhere this mode of paying the dues of the landlord was 'unpopular and exceptional' and cash rent was generally the accepted practice.³ A later survey of one of the talukas of Kaira showed that 7 per cent only of the land under tenancy is on crop share.⁴ Recent settlement reports of two talukas of

¹ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p. 8.

² Mehta, J. M., *A Study of the Rural Economy of Gujarat*, p. 39.

³ Report, p. 17.

⁴ Patel, A. D., *Indian Agricultural Economics*, p. 189.

Ahmedabad, however, reveal that 'cash rent is rare and outside the routine of the farmer' and that 'major portion of the land is leased on crop share'.¹ It may be said, on the whole, that although the system of cash rent tenancy predominates crop share is not unimportant and continues to hold an important place. It may also be stated in general that crop share is the predominant mode of tenancy with farmers of backward and aboriginal tribes.²

A first-hand study indicated that the system of sharing crops equally between the landlord and the tenant is more or less universal all over Gujarat where crop-share tenancy prevails. Only in the Viramgam taluka of Ahmedabad and some sub-divisions of Kaira the produce of land under tenancy cultivation is shared in the proportion of 3 : 2 between the tenant and the landlord respectively. The landlord pays the land revenue and the tenant bears all the expenses of cultivation. In some parts of Ahmedabad, Broach, the *Kanam* tract and the northern talukas of Surat, however, the land revenue payment, such as the crop, is equally shared by both the parties. In the Kaira district and in the case of non-cultivating landlords of Surat residing in villages and maintaining a few animals and a few others, the cow-dung manure needed on the fields is supplied by the landlord. In the southern sub-divisions of the Surat district the landlord meets half the cost of seeds in respect of paddy, *jowar* and cotton crops. In the Viramgam taluka of Ahmedabad the landlord and the tenant share the cost of extra labour employed to harvest cotton. Where the landlord shares even a part of the cost of cultivation, the by-products of crops such as fodder are divided between him and the tenant in proportion to their shares in the produce. Almost everywhere incomes from trees on the land, etc., which do not arise out of cultivation are appropriated by the landlord.

The choice of the mode of paying rent does not rest with the tenant. The landlord usually selects the one most advantageous to him. He commonly accepts rent in kind from relations and trusted tenants and from those lessees who are unable to pay cash. If the cultivators are efficient in raising good crops, the

¹ *Third Revision Survey Settlement Report*, Viramgam and Dhandhuka, pp. 8 and 11.

² Mehta, B. H., "Economic Life of an Aboriginal Tribe of Gujarat", *Journal of the University of Bombay*, Vol. II, Part IV, pp. 331-2.

landlord would benefit by sharing the produce. There are factors which induce the tenants also to favour crop share. In view of the uncertainty of seasons and crops the tenants fear that cash rent may prove a burden when yields are unfavourable. The crop-share system, however, brings with it undue interference of the landlord by way of frequent inspection of crops and yields and insistence many times on the threshing of the harvest in his presence. The landlord under this system has generally a controlling voice in the crops to be raised by the tenant. Tenant cultivators belonging to the advanced classes dislike and resent this and hence do not look upon the crop-share system with respect.

Under the crop-share system the tenant cultivator rightly feels that he will not be the sole beneficiary from his extra efforts as any increase in production in this way would also be shared by the landlord. He, therefore, does not feel enthusiastic about increasing the yield by improved tillage. It also breeds dishonesty in the ignorant and illiterate tenant who with a view to allowing as less of the produce to the share of the landlord as possible steals a part of the crop or, in the case of food crops, utilizes some of the produce in his family before threshing is complete and the time for dividing the harvest comes. The crop-share system thus comes in the way of efficient cultivation and full utilization of land.

Cash rent is usually paid for grass and garden lands held on lease. Cash rent is beneficial in respect of money crops raised on fairly large holdings when prices are rising, but would place the tenant in difficulties when prices follow a downward trend. In view of the inability of the majority of the tenants to pay money rent due to poverty and uncertainty of seasons and crops, and as farming in India is mainly carried on for subsistence, the system of crop share is likely to work to the advantage of the tenant and the landlord on the one hand and the agricultural industry on the other if certain improvements in its working are effected. The landlord should take interest in farming and in addition to offering technical and administrative assistance to the tenant, share the cost of cultivation¹. The landowners can supply better draught cattle and improved agricultural implements

¹ This is on the supposition that the tenancy system continues. On our part we would prefer to have it ended.

with which the tenants are poorly equipped. Considerable improvement in yields and better utilization of the land can be brought about in this way. The tenants, besides gaining valuable guidance and benefiting from better capital equipment, would be relieved of a part of the burden of the cost of cultivation. As noted earlier, a beginning has already been made in Gujarat in this direction and further progress of this nature would go a long way in removing some of the defects of tenant farming. In Italy changes on these lines have brought about marked improvement in crop-share tenancy cultivation.¹

§4. *Tenancy Legislation.* Prior to the enactment of the Bombay Tenancy Act of 1939 the terms and conditions of tenures were governed by the Bombay Land Revenue Code, 1879. The earlier legislation on tenancy, however, did not go beyond laying down the procedure for settlement of disputes and for registration in the records of rights, making it obligatory on the landowners to grant concessions to the tenants when land revenue was suspended or remitted, and providing for the examination of transactions and accounts. The Code did not define tenants as 'occupants' of the land they cultivated. Ordinarily, the period of tenancy and the amount of rent payable were determined by usage or custom in the absence of a specific agreement between the landlord and the tenant. Only in the case of a tenancy where evidence of commencement did not exist or no period was fixed for its duration either by custom or agreement that the Act came to the rescue by laying down that such a tenancy would be co-extensive with the title of the landlord although tenancy might not have been in operation when the landlord actually acquired title to the land. Here again, the tenant so assured about the duration of occupancy was not protected against imposition of excessive rent by the landlord, as fixity of rent was not covered by the Code.

The Bombay Tenancy Act, 1939, was the first piece of legislation designed to protect the interests of the tenants. For the first time tenants were granted permanency of occupancy of lands they cultivated and thus one of the hurdles in the way of land improvement and efficient cultivation was cleared. A tenant holding land for cultivation personally for six years prior to 1 January 1938 is defined as a 'protected tenant' and cannot

¹ See Mehta, J. M., *A Study of the Rural Economy of Gujarat*, pp. 42-3.

be removed by the landlord except under certain conditions. Tenants who held land continuously for six years prior to 1 April 1937 but were evicted thereafter and who fulfilled the other conditions were also granted this status. A 'protected tenant' can only be removed from the land if (1) he fails to pay the past arrears of rent, (2) fails to pay rent regularly, (3) does anything injurious or destructive to the land he holds, (4) sub-lets or fails to cultivate the land personally, and (5) uses the land for purposes other than agriculture. If at the time of hearing of the case filed by the landlord to obtain ejectment for non-payment of rent, the 'protected tenant' pays the dues in the court he will continue to hold the lands as such. Similarly, if the 'protected tenant' agrees to make good the damage or destruction caused by him to the land within one year, his rights under the Act would not be impaired. The landlord can also terminate the protected tenancy if he requires the land either for agricultural or non-agricultural purposes for his personal use. In order to see that wrong use is not made of this concession it has been provided that the landlord should give a year's notice to the tenant of his intention to end the lease and state therein the purpose to which he wishes to put the land and continue to so utilize it for twelve years. In case he fails to do so the tenant would be entitled to get the lease renewed. The tenant is entitled to enjoy the produce of the trees planted by him on the land while in his occupancy. Besides, in the event of eviction the landlord will be liable to pay compensation both for the trees planted by him during tenancy and for any improvement he might have effected prior to the date of the notice. On the death of a 'protected tenant' the tenancy is to be continued on the same terms and conditions with one of his heirs, who within four months of the death of the tenant gives notice in writing of his willingness to continue as a 'protected tenant'.

According to the Act, a landlord of an alienated village is restrained from evicting a tenant from the land belonging to him if the latter or his predecessor has built a house on it provided there is no default in paying rent. Such a tenant should be given the first option to purchase the land in case the landlord wants to dispose of it. The Act also affords some measure of security of possession to those tenants who held land on short leases and who could not, therefore, be classed as 'protected

tenants' by laying down ten years as the minimum period for which leases can be entered into.

The remaining provisions of the Act apply to all the classes of tenants and may be briefly summarized. Ordinarily, rent is to be determined according to agreement or local usage, but any dispute in the matter may be referred to the mamlatdar who will fix a fair rent after taking into consideration rental values of other similar lands, prices of crops, land improvements carried out by the owner, assessment on the land in question and profits from agriculture. In arriving at the expenses of cultivation to assess the net return, due allowance will also be made for the labour supplied by the members of the cultivator's family. In the event of land revenue remission or suspension, the tenant is to enjoy proportionate relief in the payment of rent. But if the landlord is not subject to any land revenue payment, the extent of relief that should be given to the tenant in case of suspension or remission will be decided upon by the Collector. The Government will not assist the landlord in recovering the rent unless he makes these concessions in favour of the tenant. The landlord is only entitled to recover from the tenant the rent that is legally due, and any exactions by the farmer in the shape of cess, tax or service of any description or denomination from the latter are declared illegal. It has also been made clear that no provision of the Act attempts to deprive the tenant of the rights or privileges enjoyed by him under any usage, contract, grant or decree of any court.

The Congress Ministry to whom goes the credit for this enactment did not stay long enough in office to see it in actual working in the province. Subsequently it was made operative, although belatedly, only in the Surat district and the two partially excluded sub-divisions of Dohad and Jhalod in the Panch Mahals district in the first instance to watch its effects and to note the drawbacks that may be brought to light in its working.¹ In view of its limited application a large body of Gujarat tenants has not benefited from it. In the Surat district in which it is enforced there are no talukdari villages, while out of 206 *nam* villages in Gujarat only 26 are located in the area. It will, therefore, be clear that the bulk of the tenant cultivators is beyond the pale of this important piece of tenancy legislation.

¹ On 11 April 1946, the Act was made applicable to the whole Province.

and has been deprived of the advantages that it is likely to bring to them

As the enforcement of the Act was not given sufficient publicity, cultivators who would have been declared 'protected tenants' under it could not apply for being so classed within the stipulated time for want of knowledge. The bulk of the peasantry for whose benefit the legislation was framed, therefore, could not evoke the aid of the very important provision for their benefit and the enactment thus lost the first round of the battle.

It is not possible to express any opinion on the working of the Act in the Surat district. Abnormal war conditions which prevailed do not enable a true picture of its effects being drawn. A few general observations on its working, however, may be useful. The relations between the landlords and the tenants in the areas in which the legislation is enforced are highly surcharged with suspicion. Despite the Act, instances of ejectment of 'protected tenants' have occurred. Tenants continue to be deprived of the lands by owners on the pretext that they want to cultivate the lands themselves or put them to other uses. Even lands which have passed to non-cultivating money lenders and cultivated by dispossessed farmers continue to change hands annually. During the last war cash rents had been enhanced more than once and the tenants continued to pay ungrudgingly. Two reasons may be ascribed for the failure of the aggrieved parties to evoke legal aid. The farmer lacks initiative and is, perhaps, unwilling to antagonize the landholding class on whose mercy ultimately he depends for land for cultivation and finance in many cases. Besides, tenants often do not know the existence of the Tenancy Act and their rights under it. Under these circumstances, the Act should be made to function automatically instead of at the instance of the tenant by allowing transfers about occupancies in the village register only after making careful inquiries regarding the tenants' position and by arranging for the payment of rent to the landlords through village officers. The provision which makes regular payment of rent a condition for continued occupancy is likely to work to the tenant's disadvantage and the better course would be to allow for laxity of a few months in payment so that the landlords may not take undue advantage of the temporary unfavourable finances of their tenants. The Act is more or less silent in regard to the crop-share system. The rules

TABLE I
STATEMENT OF THE RESULTS OF INQUIRY INTO TENANCY IN GUJARAT, 1944

Cultivating owners		Cultivating owners who cultivate their land, lease out a part of it and also hire some on tenancy					Partly tenant cultivators			Purely tenant cultivators			
Number	Area cultivated (acrea)	Number	Own area cultivated (acres)	Area leased out for cultivation (acres)	Area hired for cultivation (acres)	Number	Own area cultivated (acres)	Area hired on tenancy (acres)	Number	Area cultivated (acres)			
7	239	3	142	248	Ahmedabad			10	6	198	125	4	454
8	396	4	175	301	Boroch				12	159	171	9	192
11	145	2	10	1	Kara			16	15	87	98	4	18
14	230	3	140	326	Panch Mahals				8	276	315	2	67
13	310	16	940	493	Surat			18	40	698	363	7	133

TABLE II
STATEMENT GIVING AN IDEA OF TENANCY PROBLEM IN TWO TALUKAS OF AHMEDABAD, 1941

Taluka	Owner cultivators		Farmers who cultivate their own lands and of others				Purely tenant cultivators		Total area cultivated (acres)	Area held under tenancy (acres)	Percentage of area cultivated under tenancy to total cultivated area
	Number	Area (acres)	Number	Area (acres)		Number	Area (acres)				
				Their own	Of others						
Dhandhuka	407	9,206	794	10,332	18,496	449	9,302	47,336	27,798	58 7	
	3,106	55,229	2,602	34,620	39,676	2,879	31,503	1,61,028	71,179	44 2	
Virangam											

regarding the appraisement of crop share are left to be framed by the Provincial Government at a later stage. In the absence of specific provisions landlords have considerable scope for rack-renting the tenants by demanding a higher proportion of the produce and by asking them to share the payment of revenue. It is necessary to make good this deficiency to prevent this undesirable mode of tenancy acquiring greater importance in the interest of both the tenants and farming.¹

LAND TAXATION

Taxation in agricultural as in industrial matters may, if not properly conceived, sap the initiative and energy of the tax payers. It is, therefore, imperative that the state should formulate a proper land revenue policy. On it will greatly depend the prosperity of agriculture and the farmer. The present land revenue policy, however, has been subjected to a great deal of criticism from all non-official quarters. It is, therefore, necessary to study the subject in detail.

It has been an official practice all along to treat land revenue as rent, on the ground that the state is the owner of agricultural lands, and that the cultivators are only their occupants. The state, therefore, is entitled to exact the full economic rent from the farmer. The consideration of land revenue as rent instead of tax has resulted in violation of all the principles of taxation and, therefore, deserves some examination. The best way of approaching the subject would be to see what economic functions in respect of land the state is fulfilling. The Government advance occasionally small amounts for general agricultural purposes and have some sort of agricultural research. They do not perform the more important functions of a landlord, viz sinking capital in land improvements. Thus the claim of the Government to be

¹ The Tenancy (Amendment) Act, 1946, remedies some of these defects. It provides for the protection of those tenants who were in occupation for six consecutive years ending 1 January 1946. Further, it lays down that every tenant in occupation of the land on the date of introducing the Bill is a 'protected tenant' unless the landlord obtains a declaration to the contrary from the mamlatdar within one year of the date of enforcement of the measure. Thus the responsibility of proving that the tenant does not qualify for protection now rests with the landlord instead of on the tenant farmer as was the case under the old Act. Moreover, it stipulates that every lease subsisting on the date of application of the measure shall be deemed to be a lease for ten years. In addition, it puts a ceiling on the rate of rent at one-fourth of the estimated money value of the crop in the case of irrigated lands and one-third in the case of other lands. The Government will also be authorized to commute payment of rent in crop share into cash.

the landlord of all agricultural lands in the country does not square with their activities. It may be argued that our requirements of a landlord are too strict, and the zamindar in the permanently settled areas and the landlord under the ryotwari system also do not fulfil them. That is true, and is the main reason why they are looked upon as an anachronism and proposals are put for buying them off. In any case the state certainly cannot take shelter behind such parasitic landlords. For the purposes of our discussion, therefore, we shall treat land revenue as a tax.¹

§1. Basis of Assessment. (i) *Rentals* Under the prevailing system of land assessment rent has been adopted as the main basis both of ascertaining the land revenue to be levied and for revising it from settlement to settlement, although it has been laid down that while doing so consideration will be given to profits from cultivation. Our first problem is to see how far rent affords suitable basis for assessing the revenue demand and to what extent adoption of net profits from agriculture, which has been long advocated in its place, is feasible.

Under the conditions that obtain in our country there are many difficulties in arriving at the true or economic rent of the land. It is common knowledge that the available land for cultivation falls considerably short of the demand for it in view of the excessive population that depends on agriculture for subsistence. This gives rise to keen competition for land from cultivators. The landowners fully exploit the situation and exact as much rent as possible. Under such conditions it is absurd to talk of economic rent. This objection apart, the collection of real rental statistics itself is very difficult. In Gujarat, as elsewhere, there is a large number of indebted tenants who cultivate the lands of their creditors so that a part of the rent that may be paid would be in payment of interest on the funds borrowed. There are other tenant cultivators who cultivate lands which once belonged to them but were lost due to non-payment of debts. On grounds of sentiment these tenants would wish to cultivate these lands and would agree to pay higher rents to retain the right.² Again,

¹ Other well-known writers on the subject have also expressed the opinion that the farmer is the ultimate owner of the land and that land revenue should be treated as a tax and not rent. Cf., Baden-Powell, B. H., *Land Systems of British India*, Vol I, pp 239-40 and Vakil, C N, *Financial Development in Modern India*, 1860-1924, pp 349-50.

² Mukhtyar, G C., *Life and Labour in a South Gujarat Village*, p. 204.

an owner cultivator desiring to expand his cultivated area would not grudge some more payment by way of rent for a plot of land in the neighbourhood. In order to avoid trespass and damage by stray animals from fallow lands near cultivated fields a farmer of these fields would hire the uncultivated area for the purpose of enclosing it. It is also likely that high rent may be paid not on account of superior fertility but because of certain facilities existing on the land such as a well of good drinking water¹. As against this, instances of rents below normal are also not absent. Relatives and others closely attached to the landowners may be allowed to cultivate the lands on rents below those commonly prevalent on account of the desire of the owners to maintain good relations. It may also happen that while the rent agreed to between the two parties while entering into a contract for hiring land may have been entered into the village tenancy register, the actual payment may be much lower. This is particularly true when interest on borrowed money enters into it or where the tenant is inefficient or belongs to a Kalipara caste. As the village rent register indicates the rents agreed upon and not those actually paid, it is clear that these entries of rents cannot serve as a completely reliable guide². On the whole, the former set of factors predominate, thus exaggerating rent on which land revenue is based.

The village tenancy register does not truly record even the cash rent payments. Many entries of cash rent are omitted altogether. In regard to those recorded there is irregularity about putting them down from year to year³. In addition, the rent register is inaccurate on many points. Sometimes the register indicates rent against one survey number when in actual fact it may be attributable to two or more, it may also show a period of lease shorter or longer than the actual. The rent register also does not furnish information about the unmeasured and unassessed area, trees covered by the lease, interest leases and expenditure by landlord on lands. An enhanced rental may be charged by a landlord for certain improvements he might have carried out on land⁴. Sometimes a lease appears like a sale of

¹ *Report on the Special Inquiry into the Second Revision Survey Settlement of Bardoli and Chorasi Talukas*, p. 21

² *ibid*

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 203

⁴ *Report on Special Inquiry into the Second Revision Survey Settlement of Bardoli and Chorasi Talukas*, p. 22

crops when a good portion of the cost in raising them is met by the landlord. The tenancy register sometimes indicates a tenant as paying assessment when it is actually deducted from rent¹.

Even these defective rental statistics are available only for a small proportion of land. A good proportion of land in Gujarat is cultivated by the owners themselves. Further, an appreciable acreage of the rented area is held on crop share and therefore the number of cash rent leases are appreciably low. Thus, the process of determining land revenue from rental reduces itself to assessing a region on the basis of the rentals of a few of its fields. In view of all these, calculations based on rental statistics will be conjectural to some extent.

(ii) *Net Profits*. The net profit of agriculture would, theoretically speaking, afford a more satisfactory basis of assessment and revision. Being based on average profits of certain crops on particular varieties of soil, they would not be vitiated by the many factors that we have seen and a more satisfactory relation of the tax to the farmer's ability would thereby be achieved.

The assessment of net profits from agriculture, however, presents many difficulties in practice. We have no knowledge of the cost of production even of our main crops. The farmers consume part of their farm produce and meet some items of the cost of cultivation in kind, e.g. seeds which are kept back from previous harvest and dung manure. In many cases farmers pay wages in kind from crops and obtain wood for implements from trees growing on their fields. Firewood and other by-products of agriculture and subsidiary occupations are also used in the farmer's home. The list is not exhaustive, but the instances given above will sufficiently bring out the difficulties of assessing cost of production and gross income from land. Further, the soils of Gujarat have been classified into many classes and sub-classes. The dry crop lands alone are divided into 20 classes and each class into two sub-classes². The garden lands have been split up into two classes. The rice beds are divided into two main classes and two sub-classes have been created under each one of these. The irrigated and rice lands in the Surat district bear a

¹ *Report on Special Inquiry into the Second Revision Survey Settlement of Bardoli and Chorasi Talukas*, p. 22.

² Gordon's R. G., evidence, *Bombay Land Revenue Assessment Committee*, p. 136.

distinct classification and each of them has been divided into two main classes, each class into three sub-classes and one of these sub-classes has further been divided into two more divisions¹ These are only the broad divisions and the detailed technical classification on the basis of depth and texture of the soils has not been accounted for The list of crops raised on them is equally imposing On some of the lands more than one crop is raised in a year On others, different crops appear in rotation The system of mixed farming is also widespread. The practice of leaving large cultivable area fallow every year is an additional factor introducing complications into the work of calculation of profits of agriculture The task of assessing net profits for each crop in terms of money by methods of accounting would thus be formidable

It will thus be seen that the difficulties of assessing net profits are very great The fact that in most of the countries of the world, where the difficulties in arriving at profits would be comparatively much less, annual value or rental has been chosen to serve as the basis of land revenue demand, is significant Most of the objections urged before against rent serving as the basis of assessment have been at the actual practice followed in arriving at the averages of rent During the second and third revisions carried out in Gujarat great care was exercised to eliminate all doubtful cases and to take into account only those which represented pure rent With greater vigilance and care in computing rental statistics the mistakes might be minimized

(iii) *Pitch of Assessment* The table on p 137 gives the fully assessed ryotwari areas, population and the Government land revenue demands for different districts of Gujarat The incidence of land revenue per acre and per head of population of fully assessed area is also given side by side

It will be seen from the table that the average incidence of land revenue both per acre and per head of population of fully assessed area is comparatively heavy in the Surat and Kaira districts This comparison of the burden of assessment as between different districts means little without at the same time taking into account other factors like the nature of the soil, climate, facilities for irrigation, etc.

¹ *Bombay Survey and Settlement Manual*, Vol II, p 300.

INCIDENCE OF LAND REVENUE ON LAND AND POPULATION¹

District	Fully assessed area		Net revenue from fully assessed land	Population of fully assessed area	Incidence of revenue on fully assessed area		Incidence of revenue per head of population of fully assessed area
	Total	Cultivated			Entire area	Cultivated area	
Ahmedabad	5,32,444	4,79,172	11 15 737	6,51,905	2-1-0	2-5-3	1-10-2
Broach and Panch Mahals	7,38,347	7,02,588	20,61,566	7 88,696	2-12-8	2-14-11	2-9-9
Kaira . . .	4,65,699	4,42,223	14 10,880	6,90,561	3-6-0	3-3-0	2-8-0
Surat .. .	6,70,537	6,54,342	22,20,023	6,91,241	3-5-0	3-6-3	3-3-4

¹ *The Agricultural Statistics of India, 1936-7, Vol I, pp 300-1.*

Lands under double tenures in Gujarat are grouped under 'Zamindari and Village Communities Temporarily Settled' and the total gross area under them is 16,18,426 acres out of which 14,75,046 acres have not been fully assessed. For another 18,072 acres again, data is not available. Of the remaining 1,25,308 acres of fully assessed lands for which statistics are at hand, 1,23,892 acres are in the Ahmedabad district and the remaining 1,416 acres are in the Surat district. The total Government demand from the double tenure holders amounts to Rs. 25½ lakhs annually, but on account of paucity of information the incidence of land revenue per acre of total and cultivated areas and per head of population on the estate holders cannot be arrived at except for the Ahmedabad district. In Ahmedabad the incidence of land revenue on estate holders per acre of total and cultivated areas and *per capita* comes to 3 annas, 3 annas 2 pies and 1 anna 6 pies respectively.¹

We shall now examine the procedure of settlement and revision and the factors taken into consideration, in addition to annual value, in basing and revising assessment and discuss how errors in them lead to the fixation of disproportionately heavy revenue demand. But before doing so it is necessary to mention two important factors that accounted for the imposition of heavy demand at the start. Instead of fixing the total revenue demand after a proper survey and assessment of all the fields, the British commenced settlement operations on the basis of the revenue collection by the previous rulers which were excessive because, besides land revenue, they included exactions on numerous counts. Some reductions were effected in the initial demands subsequently. The method of assuming total initial demand on a region according to the revenue and economic history of the tract and then distributing the aggregate among the individual survey numbers instead of the other way about resulted in fixing a demand not in accordance with the returns from land and the ability of the farmer.² Further, the second half of the nineteenth century, when the original settlements in Gujarat were carried out, was the period of unstable economic conditions because of the American civil war and the cotton boom resulting out of that in the country. It is not unlikely, therefore, that the original

¹ *Agricultural Statistics of India, 1936-7*, Vol. I, p. 301

² *Report of the Indian Taxation Inquiry Committee*, Vol. I, pp. 50-1

assessment based on the then prevailing prices must have been pitched high in the beginning

§2 Grouping of Villages and Classification of Soils. For the purpose of settlement and revision it has been the practice to group villages according to similarity of soils and climatic conditions, crops, nature of cultivation and standard of husbandry, facilities of communications and markets, etc. The aim in doing so was to impose uniform revenue demand on lands which are similar in characteristics and productivity. As, however, the work of grouping was left to the discretion of the settlement officers serious mistakes have crept in. Instead of properly weighing all the considerations while forming the villages of a taluka into groups, one or more of the factors enumerated above was given undue importance. Factors like the economic position of the people, castes of the peasantry and facilities for marketing, transport and irrigation were given excessive weight in the creation of the groups.¹ The confusion about grouping at the original and first revisions was worse confounded when with a view to making the work easy the settlement officers reduced the number of groups or promoted villages from the lower groups to the higher ones. The incidence of revenue on most of the villages so promoted proved heavy and more than could be justified in the light of their economic conditions.² Even among the villages of the same original group though conditions appeared very similar at times to the settlement officers, there were variations regarding rents, soils and their fertility, nature of crops, etc., and the assessment of the group as a whole fell heavily on some of the villages.³

Mistakes about the classification of soils have been of a more serious nature. The common error has been of classifying lands as garden, *bhatha*, rice or *goradu* while actually they might be under grass or suitable to raise grass only. Lands capable of growing only dry crops were also classed as *kyari*. Confusion between *jarayat*, *bagayat* and *bhatha* was also common.⁴ It need

¹ *Revision Survey Settlement*, Borsad and Bulsar Talukas pp 10-11

² *Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas*, pp 2, 3 and 73. Also see *Second Revision Survey*, Kapadvanj Taluka, pp 52-3

³ *Second Revision Survey*, Borsad Taluka (1942), p 11

⁴ *Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas*, pp 18, 71 and 75. Also see *Revision Survey Settlement*, Pardi Taluka, p 68

hardly be stressed that such wrong classifications meant heavy assessment of inferior lands and resulted in grave injustice to their holders.

§3 **Land Improvements.** It has been laid down in the Land Revenue Code that care should be taken by settlement officers during revisions to see that increase in yields or profits of agriculture due to improvements made by the farmer on land with his capital and labour are not taken into account while revising assessment. It is stated in this connexion that the distinction between prosperity due to improvements and other factors is so thin that in absence of specific rules the farmer's capital and enterprise have been taxed by the Government at the end of each settlement. It was also said that conversion of *warka* lands into rice beds and bringing waste lands under the plough constitute agricultural improvements. High rents are earned on such improved fields. Ultimately, therefore, when the assessment on them is increased on the basis of the new rental statistics, land improvements come to be invariably taxed. Other instances mentioned where improvements are taxed are of *jurayat* lands converted into rice beds which were classed by settlement officers as 'new rice' and brought under increased assessment and of worthless *mal* lands converted into flourishing cotton fields which were similarly burdened with a higher rate¹. A modification of this view is that improvements should not be exempted for all time and that after the farmer has been sufficiently reimbursed for his capital and enterprise through better returns, improvements, in common with other factors, should also be considered in raising assessment. Accordingly, it is suggested that the period for which exemption from enhancement on these counts may be granted is the expiry of the settlement during which they were effected and for the next settlement.

A permanent or long-term exemption from taxation of private improvements has been a canon of taxation seldom heard of in other spheres or other countries. However appealing it may sound, in practice increase in farmer's income due to his improvements and due to other extraneous factors can never be distinguished. It was perhaps only the very heavy rate coupled

¹ Reports of the Second Revision Survey, Anand, p 1, and Kapadvanj, p 11

with absence of provision for something like depreciation allowances that has made this demand sound unreasonable. With a light system of land taxation, as we have recommended, and with a land revision for 20 or 30 years' period all encouragement that private improvements ordinarily need will be available in the ordinary framework, but in cases where substantial improvements have been carried out just before the period of revision, special provision exempting these for a part of the next period may be essential.

§4 Prices. While revising the assessment the settlement officers take the prices of agricultural produce and lands into account in order to ascertain the state of prosperity of the farmers. A rise in their prices is taken to mean better rural economic conditions than those prevalent at the previous revision. It is said that the extent of rise in prices of farm produce is an indicator of increased returns to the farmer. This is an objectionable principle because to the small farmers an increase in prices seldom brings a proportionate benefit. In practice this principle is made much worse because usually the prices calculated are mainly of commercial crops and on taluka prices¹.

Land values are usually taken to reflect demand for land which in turn serves as an indication of the profitability or otherwise of agriculture. This is a very objectionable criterion. It is true to some extent that productivity and location of the soil are important determinants of land values. But there are many other factors which enhance land values. Lack of other occupations makes many people stick to agriculture. The land hunger of the Indian peasant is proverbial. An appreciable number of Gujaratis, particularly the Patidars of Kaira and the Kunbis of Surat who have migrated to foreign countries, bring wealth from abroad and invest in lands. In their quest to purchase lands they offer fancy prices, sometimes irrespective of the quality of the fields offered for sale, which artificially inflate land values². In preparing a list of land values it is difficult to keep out all these cases.

§5. Communications and Markets. Good roads and proper

¹ *Report of the Second Revision Settlement, Choras* (1932), p. 4, Borsad (1942), p. 9 and Thasra (1942), p. 9. Also *Report on Special Inquiry into the Second Revision Survey of Bardoli and Choras Talukas*, p. 16.

² *Second Revision Survey, Anand Taluka* (1942), p. 12 and *Special Inquiry into the Second Revision Survey Settlement of Bardoli and Choras Talukas*, p. 46.

marketing facilities contribute a good deal to rural prosperity and have, therefore, been taken into consideration while revising assessment. However, the settlement officers have exaggerated their usefulness to the rural areas in fixing assessment. Marketing centres in themselves without efficient arrangements for the disposal of the farmer's produce in the form of organized markets with licensed middlemen and facilities for grading, standardization, storing and credit against the commodities do not amount to much. Moreover, much would depend on how far these facilities have been availed of. No heed is paid to this factor¹. In a few cases communications may even prove a curse to the villages. In some places as a result of good roads and development of motor transport farmers have been deprived of income from subsidiary occupation of carting². It would have been desirable, therefore, to raise revenue on this count only if it could be established that the farmers have benefited from the extended facilities of communications.

§6 Agricultural Resources. Increase in agricultural stock, particularly animals, carts and ploughs, has been taken by settlement officers as a sign of growing rural prosperity, but a little insight into the agricultural conditions of the country will show that they often indicate the contrary. India has an excessive bovine population which is under-fed, under-sized and inefficient and the region under study does not present a very different picture. A mere increase in these is of little significance. Increase in carts, likewise, is no sign of growing rural prosperity. Many of the dispossessed farmers in the rural areas maintain carts to ply them on hire and eke out an existence. Even for the small farmer with little land to cultivate and not much produce to market, the maintenance of a cart would prove uneconomic unless he ples it on hire and meets the major part of expenses on upkeep in this way. The increase in the number

¹ *Revision Survey Settlement, Bulsar Taluka* (1900), p. 68.

² Undue importance was attached to communications in another way. The same railway or road was taken into consideration for enhancing assessment more than once. Besides, fair weather roads or unmetalled roads with 'fau stretches' and others unusable by bullock carts have been considered to increase Government demand. Even roads of small lengths and some which may be useful to a single village have not been left unaccounted. The utility of even metalled roads is considerably reduced when they become unpassable during the monsoon on account of rivers or streams cutting across them. See *Report of the Special Inquiry into Second Revisional Survey of Bardoli and Chorasi Talukas*, pp. 10-11.

of ploughs may be due to greater sub-division and increase in the units of cultivation. Unless, therefore, the number of ploughs are considered along with the area falling to the share of each for being 'cultivated' it would not serve as a reliable guide to agricultural conditions¹. Even as it is, if a comparative study of the statistics of agricultural stock is made over a long period there might be no additions to them and what might appear to be an increase would actually be making up the deficiency caused in famines, epidemics, etc., in the past². During recent revisions, figures of agricultural stock have either been found remaining constant or a slight fall has been noted in them. This has puzzled the officers who have now offered queer explanations to prove that these have no bearing on agricultural conditions³.

§7 Water Rates. The sub-soil water rate aims at taxing certain special advantages enjoyed by some lands in the shape of water in their substratum. The farmers who own such lands are in a position to obtain higher returns due to this water advantage below the surface by digging wells and raising irrigated crops. No machines or tools are employed to determine sub-soil water and the presence of water in respect of lands is ascertained from wells in existence in the neighbourhood and on similar other fields. Apart from the defective method of detecting the presence of sub-soil water, the principle of levying the tax is basically wrong. It will be agreed that in spite of the presence of sub-soil water many farmers are not able to take advantage of it for want of capital to dig a well and to purchase agricultural implements required for irrigation farming. It has been estimated that only one-third of the total area subject to sub-soil tax has been irrigated. It is unjust to tax a farmer for a facility which has not been taken advantage of. Even the existence of wells is not an indication of the possibility of wet cultivation, particularly in Gujarat, where water in many wells is brackish and unsuitable for raising crops. In Kaira, for instance, out of 3,249 wells examined 2,564, i.e. 88 per cent, had brackish water and the sub-soil water rate levied on the soils on their basis had to be cancelled. The water cess levied on lands on the basis of wells

¹ *Second Revision Survey*, Thasla Taluka, p. 6 and *Revision Survey*, Parli Taluka, p. 6.

² *Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas* (1929), p. 14.

³ *Reports on Second Revision Survey*, Anand, Kapadvanj and Borsad, p. 7.

which were in good condition at the time of imposing it but fell into disuse subsequently continues to be collected¹ Besides, although the quality of water in the wells is not uniform everywhere in Gujarat, the water rate on all lands with sub-soil water advantage is the same² On account of the irregularity and fall in the quantity of annual rains over many years it is said that the level of sub-soil water in Gujarat has also gone down. In the light of this phenomenon and other reasons given above, the water rate falls heavily on many farmers and there is a strong case either for its revision or repeal

Another rate resembling in some respects the water cess is the *himagat* tax levied on fields which are situated on the banks of streams and rivers and in the vicinity of village tanks It is argued about the *dhekudiat* assessment that 'it makes a cultivator pay a low rate for dipping his bag into a river or stream and taking as much water—the property of the State—as he pleases as long as it lasts' and that the Government's claim over it is the 'most just one'³ There can be no objection to the levy of a *himagat* tax for the use of water from rivers and streams where its use is facilitated by the construction of weirs and bunds across them at Government expense But where the farmers themselves made arrangements for the storage of water by erecting *bandharas* across the streams and for drawing water on the surface by constructing *dhekudis* or where the farmers do not use the water, the *himagat* levy is obviously not justified

The *akashia* tax on rice lands in Gujarat likewise has no justification⁴ Transplanting of paddy has become impossible in rice lands in Ahmedabad and Kaira due to scanty rainfall with the consequence that rice beds now only raise dry or fodder crops, their prices have fallen and the rents they fetch have gone down In spite of this, the water rates which these fields bear instead of being abolished altogether are only partly reduced.⁵

¹ *Report on Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas*, p. 69

² Gordon's R. G., evidence, *Bombay Land Revenue Assessment Committee*, p. 144

³ *Revision Survey Settlement, Mandvi Taluka*, p. 51

⁴ *Report on Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas*, p. 69

⁵ *Second Revision Survey, Nadiad*, p. 20, Kapadvanj, pp. 17-18, Thasra, p. 18, Anand, pp. 17-18, and Borsad, p. 17.

We have little information on the burden of the land revenue to the farmer. There are no hard and fast rules deciding the proportion of rentals that should be taken away from him. The Land Revenue Code lays down only the maximum—50 per cent originally and 35 per cent from 1939. The actual rate is to be determined by settlement officers in the light of many other considerations which we have examined. Rules regarding enhancement at the revision period¹ and for treatment of improvements have made it even more difficult to know what proportion of income is paid by the farmer by way of taxation. According to the witnesses before the Bombay Land Revenue Assessment Committee, revenue in different regions of Gujarat came to 40 to 50 per cent of rent or annual value and in some places even exceeded economic rent. These are, however, not based on any inquiry and have, therefore, to be taken with reserve. It is, however, beyond doubt that land revenue has proved oppressive in some cases. The phenomenon of land going out of cultivation as a result of heavy land revenue demand was noted during more than one inquiry.² People unable to pay land revenue relinquished possession and such lands became wastes. It has been argued that as assessment forms only a fraction of the total cost of cultivation, it cannot be advanced as a cause of rural indebtedness and that any reduction in land revenue instead of affording relief to the agriculturists, would only enrich the money-lender especially in respect of the backward classes of farmers.³ A survey, however, has disclosed that 60 per cent of the farmers examined were unable to pay land revenue without recourse to the money lenders.⁴ Some of the official and non-official inquiries have also admitted that land revenue is an important cause of indebtedness.⁵

The excess of land revenue demands may be largely due to the imperfect nature of the rental statistics collected ostensibly by the settlement officers but in actual fact supplied by local officials

¹ The enhancement at a revision in no case should be in excess of 33 per cent in respect of a taluka, 66 per cent on a village and 100 per cent on an individual hold.

² Kumarappa, J. C., *Survey of Matar Taluka*, pp. 6-7 and the *Report of the Pardi Taluka Economic Inquiry Committee*, pp. 52-3.

³ *Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas*, p. 68.

⁴ Kumarappa, J. C., *Survey of Matar Taluka*, p. 83.

⁵ *Report of the Indian Taxation Inquiry Committee*, Vol. I, p. 68 and *Report of the Pardi Taluka Economic Inquiry Committee*, p. 52.

both at the time of original settlement and revisions. But even otherwise the smaller cultivators cannot afford to pay 35 or 50 per cent of the rental value of their land, though to bigger cultivators this may be a much lighter burden compared with that of the income-tax on their urban compeers. There is, therefore, a need of evolving a revenue policy which will, on the one hand, tax the class of peasantry with tiny holdings lightly and impose, on the other, an additional burden on the big cultivators who are able to bear it. This can be achieved by levying a low uniform land tax, amounting to about 10 per cent of the rental value of land and an agricultural income-tax.¹ In that case all other criteria such as number of ploughs, water facilities, etc., will occupy a much subsidiary role. They will be used for judging the accuracy of rental figures. Extra rates will only be charged by the Government for definite services rendered. Such a system will also put an end to the present largely arbitrary character of land revenue demands depending on the ideas and even whims of the settlement officers. It is also desirable to lower the scales of enhancement on revision and bring them in line with those adopted in the C P, for instance, where enhancements at the time of a single revision are limited to 33 per cent, 50 per cent and 75 per cent over the rates in force in respect of a taluka village and field respectively.

§8. *Period of Settlement.* In British Gujarat lands are settled for 30 years. It has been said that this period of settlement is not sufficiently long to assure the cultivator that the improvements he effects on his land would not result in enhanced revenue demand and that it should be extended. As an instance of the usefulness of such a change it is mentioned that an experiment in sixty years' period of settlement tried in one of the talukas of Baroda State resulted in great improvements in agriculture. Some have gone further and suggested either ninety-nine years or permanent settlement. In their view this would go a long way in improving the conditions of agriculture and the agriculturist.

As against this it must be pointed out that the longer the period of settlement, the nearer is the land system to the permanent settlement which has resulted in a large number of evils. Such

¹ The Government of Travancore have already reformed the system of land taxation on similar lines.

a system would fail to take into account changes in the farmer's income due to extraneous causes. In fact, in view of changes in methods of cultivation, fluctuations in prices of farm produce and lands, etc., a shorter period than thirty years would be better. But a change of this kind is likely to add disproportionately to administrative work and cost. Hence we refrain from pleading for the shortening of the period.

§9. Remissions and Suspensions. Since land revenue has to be fixed for a long period the system should be elastic enough to adopt itself to large changes in the income of the farmer either due to changes in yields or changes in prices. At present, provision is made only with regard to the former in acute cases. Usually relief is afforded through suspensions and remissions to a village or villages during calamities or general distress. Remissions are sanctioned when the average *annawari* yield of all the crops in a village is below two annas the standard¹. It would be better if the *annawari* yields of all the crops were to be computed separately and remission sanctioned in respect of those the yields of which are below the stipulated minimum. Suspensions are granted when there is a partial failure of the season. If the crops are six annas or below the standard on an average, partial suspension is sanctioned but if they are four annas or below the standard, the entire revenue demand of the year is deferred. The proportion of the suspended revenue demand is to be paid out of the realizations from the next harvest. But if unfavourable agricultural conditions persist for three consecutive years the suspended revenue demand is remitted in full. The system of suspensions proves inconvenient to the small farmer, because with his little surplus he finds it difficult to pay two years' land revenue even with a favourable harvest. It would, therefore, be much better to entirely abolish the system of suspension and liberalize that of remissions by granting them when the yield is below eight annas.

Attempts have been made to find out the relation of assessment to net returns from land. It was found that in Surat assessment on rice lands and the black soil tract came to 22.8 and 20 per cent of net returns respectively.² Another estimate put down 30 per

¹ For purpose of calculating the *annawari* of crops, yields of the value of 12 annas on an average and not 16 annas constitute the standard or full harvest.

² Mehta, J. M., *A Study of the Rural Economy of Gujarat*, pp. 155-6.

cent of the net produce as the Government demand in the same district¹ But agricultural prices fluctuate considerably from season to season Consequently, the proportion land revenue bears to net returns also varies In times of depression in particular when agricultural prices experience a steep fall, revenue demand weighs heavily on the farmer For instance, in 1931 in Matar taluka land revenue varied from 71 4 to 215 4 per cent of net produce from village to village² A greater elasticity will be imparted to land revenue if, along with yields, prices are also considered in deciding remissions In this connexion an experiment tried in the Punjab is interesting Under this system the initial land revenue demand is fixed on commutation prices over 20 years If the harvest prices prevailing during two previous harvests are below the commutation prices proportionate remission is granted No increase is made in the demand in any case

While this system is admittedly an improvement on the prevalent system in Gujarat where there are no systematic remissions because of price falls, there are many directions in which it can further be improved Under it relief to the cultivator in revenue payment does not accrue in the year in which the fall in prices occurs This defect can be remedied by taking the average of the current daily harvest prices of important crops as a basis for reduction³ This would no doubt require the postponement of revenue collection by some days But a little delay in recovery in this way will be only a small price to pay for the greater elasticity that would be secured thereby There is one more objection against the method that it assumes net income to vary according to gross income There is a time lag between the changes in cost of cultivation and the variation in prices and some of the items in cost hardly vary The cost of cultivation, therefore, bears a higher ratio to gross income during falling prices and a lower ratio in times of rising prices As the land revenue demand under the sliding scale varies with gross income it will bear a higher ratio to net income when prices are falling This contingency can be provided for by allowing a more than proportionate reduction in case of falling prices So far this new method of basing the revenue demand on agricultural

¹ *Report of the Bombay Land Revenue Assessment Committee*, p. 95.

² Kumarappa, J. C., *Survey of Matar Taluka*, p. 86

³ *Report of the Punjab Land Revenue Committee*, pp. 49-50

prices has been applied to two districts but because of the good results it yielded, it has been favourably looked upon throughout the province

§10 Time of Payment. One more complaint of the farmers relates to the timings of collecting revenue instalments. The dates of collecting revenue either fall in the midst of harvesting or immediately after it. This compels the farmer to either dispose of his crops at unfavourable rates to obtain money in time for meeting the revenue instalments or else drives him to the village *bania* to borrow funds for the purpose. It is necessary, therefore, to postpone collections to such a time that revenue instalments may become due for payment after the harvesting and marketing of crops are completed

After the revision operations have been put through and the rates increased, the Government adopt a complacent attitude. No machinery is maintained to watch the reactions of the changes effected. Only when the rural population shows signs of disintegration and distress and after sufficient harm has been done or when there is a strong resentment from the farmers to pay land revenue, either special inquiries are instituted or survey operations ordered again.¹ To avoid this it is necessary to have some machinery which will be charged with the duty of watching the effects of land revenue on the farmers

Thus, land taxation in British Gujarat ought to be reorganized on the following lines

(a) Rent should be made the sole basis of assessment and revision

(b) A low uniform tax should be imposed on all lands and a progressive agricultural income tax on higher agricultural incomes.

(c) The rules regarding suspensions and remissions should be considerably liberalized, and modified so as to provide for changes in farmers' incomes due to price variations.

¹ As, for instance, in the case of Viramgam, Prantij, Modasa, Matar, Mehemdabad, Borsad, Bardoli and Chorasī sub-divisions

RURAL LABOUR

In the previous chapters, we had many occasions to indicate the economic conditions of the farmers, both of land owning cultivators and of tenant farmers. We will now discuss the conditions of numerically the most important agricultural class, viz the landless labourers.

The agricultural labourers live in the most appalling conditions and surroundings. They are poverty-stricken and have hardly enough means for two square meals and clothing to cover their bodies. Social amenities are unknown to them. Proper housing facilities, free medical aid, minimum living wage, etc., are no less important to the rural labourer than to the industrial worker in the city. But the entire mass of labour in the rural areas today remains unorganized with the result that their voice is never heard beyond their huts. From the social reformer, the politician and the research worker, agricultural labour and its problems have not received the attention they deserve. Even the post-war reconstruction plans, both official and non-official, pay little or no attention to this important aspect of the rural economy of the country. In view of the important part played by labour in agricultural production, the importance and gravity of its problems have to be properly emphasized.

LABOUR POPULATION

Statistics of the labour population of Gujarat for 1941, both total and classified, are not available. In 1931, however, the population of British Gujarat which returned agricultural labour as their principal occupation was 1,49,294, while their working dependents and others who pursued agricultural labour as subsidiary occupation were 3,44,253 and 6,013 respectively. The proportion of population having agricultural labour as principal occupation to the principal cultivating owners and tenant cultivators for British Gujarat in the same year came to 433 : 1,000 as against the all-India ratio of 407 : 1,000 indicating the greater gravity of the problem of landless labour in Gujarat. In view of the different methods of enumeration, classification and tabulation followed at different censuses, it is not possible to

get similar statistics for 1911 and 1921 so that a comparative view of the general trend of the agricultural labour population cannot be obtained. But there seems to be general agreement that the small agriculturist on the margin is being slowly dispossessed of his land and forced to work in the fields for subsistence.

The Dublas, Naikas, Dhodias, and to some extent Kolis in the Surat district, the Bhils, Talavias and Vagris, migrating partly from the Rajpipla State, in Broach, the Dheds, Vagris, and Dharalas to some extent in Kaira, the Vagris, Bhils, Kolis and Chodharas in Ahmedabad and the Dublas, Naikas and the Bhils in the Panch Mahals are the main castes and tribes from which labour for agriculture is drawn. Of them, the Kolis, Dharalas, Bhils, Naikas and Dhodias were small agriculturists once, but they were forced to part with their land as a result of growing indebtedness and had to fall upon agricultural labour as subsidiary or full-time occupation for subsistence.¹

DOMESTIC AND HIRED LABOUR IN AGRICULTURE

A study of the proportions of hired and domestic labour employed in agriculture will enable us to know the extent to which peasant proprietorship has retained its true form. The table on p. 152 will give an idea of the place of domestic and hired labour in agriculture.

The figures given indicate two things. In the first place, they show that the number of farmers who rely exclusively on hired labour for cultivation of their holdings is very small. Secondly, during the period of the last ten years the number of capitalist farmers has risen slightly, while the acreage cultivated with the help of hired labour has gone down. This shows that there is no tendency towards capitalistic farming in Gujarat.

The extent of hired labour employed by a farmer varies largely according to the size of his holding, the size of his family, his caste, and the nature of cultivation. A few concrete instances will illustrate this point. In the *Kanam* tract of the Baroda

¹ In the first phase of the process of dispossession of lands the small agriculturists were only deprived of ownership rights and the money-lenders allowed then to till the fields as tenant farmers. But the downward journey did not end here. Either on account of inability to pay rent regularly, failure to enjoy continued favour of the landlord or to cultivate the lands to his satisfaction, or for other reasons, the tenant was finally ejected from the land which he called his own and had to join the rank of landless agricultural labourers. Thus tenancy cultivation in turn gave rise to a more serious problem of landless proletariat making the structure of rural life precarious both economically and socially.

LAND CULTIVATED WITH DOMESTIC AND HIRED LABOUR

District	1931-2						1942-3					
	Domestic labour			Hired labour			Domestic labour			Hired labour		
	Persons	Area (000 acres)	Percent- age to total area	Persons	Area (000 acres)	Percent age to total area	Persons	Area (000 acres)	Percent- age to total area	Persons	Area (000 acres)	Percent- age to total area
Ahmedabad .	62,595	4,71	97 3	776	13	2 7	64,752	4,66	97 5	1,372	11	2 5
Broach and Panch Mahals	73,922	6,54	95 9	1,538	28	4 1	79,411	6,66	92 7	3,311	52	7 3
Kaira	1,25,071	4,61	90 8	5,598	47	9 2	1,19,527	5,03	98 1	643	10	1 9
Surat	65,997	3,80	82 4	1,740	81	17 6	83,625	4,56	88 9	4,665	57	11 1
British Gujarat	3,27,585	19,66	92 1	9,652	1,69	7 9	3,57,315	20,91	94 2	9,991	1,30	5 8

district for a farmer with a holding of 25 *bighas* producing cotton, *jowar*, *tur* and a few other pulses and with eight members from the family to work in the fields there was no necessity to employ hired labour. On another holding of almost equal size in Surat made of two *bighas* of irrigated land raising vegetables, five and three-quarters *bighas* of paddy land and 17 *bighas* of grasslands and with nine members of the family to help in cultivation paid labour came to about 10 per cent¹ of the total labour required. The period of employment in the year varies from five to seven months in the regions raising dry crops to as high as nine to ten months for irrigated crops.

In Ahmedabad instances of farmers depending entirely on hired labour for agricultural operations were not many and the Patidar and Koli farmers of the district were helped on the fields to an appreciable extent by their family members. On a rough estimate it may be said that only about 10 per cent of the farmers depended entirely on hired labour. The rest employed hired labour to the extent of 25 to 50 per cent of the total labour force required. Extensive cultivation of dry crops by its very nature makes it imperative to hire labour during busy seasons to commence the operations at the opportune moment and complete them in time. There were instances in which hired labour came to as high as 60 to 75 per cent of the total labour required, but they were not many.

Patidars and Bohras are the prominent classes of farmers in the Broach district and as their women are socially tabooed to do manual work, they all employ hired labour in the fields. The Kolis, Vagris and other classes who belong to lower social strata come next in importance. Those members of their families who can work help them on the fields and to that extent employment of hired labour is less. The percentages of labour hired to total needs vary from 10 per cent to 50 per cent.

In the Kaira district Patidars are the prominent class of agriculturists followed by Dharalas and Kolis. The former hire all the necessary agricultural labour while in the case of the latter a large part of the necessary labour is supplied by the family members. The area cultivated and resources commanded are

¹ The shares of domestic and hired labour have been ascertained by taking the number of workers from the family of the cultivator and outside and calculating on the basis of days for which they worked in the fields during the year, each working day being calculated at nine hours.

also important factors determining the proportion of hired labour by Koli and Dharala farmers. The percentages of labour hired by these lower classes range from 25 per cent to 65 per cent and in a few cases are as low as five to ten per cent. The period of employing hired labour is from five to six months in the year when important agricultural operations are to be put through. In the *Charotar* tract comprising parts of Kaira and Baroda districts, in view of tobacco and other irrigated crops grown, the period of employment extends to nine months in the year.

In regions inhabited by the Bhils in the Panch Mahals such as the Dohad and Jhalod talukas the members of the farmers' families supply most of the agricultural labour needed on the fields. Labour is hired only during busy seasons and the percentages of such labour in some cases range from 10 to 20 of the total labour required during the year. In case of most of the farmers, however, family labour fulfilled the requirements and the need for hired labour arose only occasionally. Besides, under the *las* system prevalent among the Bhils, friends and relatives mutually help one another on the fields. The friend or relation so helping gets half a pound of boiled maize every day at noon and takes his or her morning and evening food at home. On the other hand, the farmers in the western parts of the district comprising Godhra and Kalol belong to upper classes and hire all the labour required in the field. The farmers belonging to lower classes in the same region hire labour in 10 to 20 per cent of the aggregate and only in a few cases to as high as 40 to 50 per cent. Among the Naika farmers round about Derol again we find conditions similar to those in the Bhil tract.

In common with the upper classes of cultivators in other districts, the Anavils, Kanbis and Rajputs who compose an appreciable proportion of the land-owning classes in Surat depend on hired labour for their agricultural operations. The Koli, Dhodia and Naika farmers employ hired labour only partly and consistent with their resources, most of the field labour required is provided by their family members. Instances are found in which although hired labour may be necessary during certain important field operations, poor farmers cannot employ outside labour for want of resources to pay wages with the result that crops suffer damage and the yields to the farmers from lands comparatively become low. The extent of labour hired by the

latter category of farmers comes to 10 to 30 per cent of the total supply needed and in a few cases is as high as 50 to 75 per cent. The number of farmers employing only 5 to 10 per cent of outside labour is small

SUPPLY OF LABOUR

The trend towards progressively increasing the pressure of population on land in Gujarat caused rapid additions to the class of landless labourers thus ensuring the necessary supply of field workers. Local scarcity, however, during certain times and in certain tracts is common. For example, shortage of field labourers is commonly experienced during busy seasons in some parts such as the wheat-producing regions of Ahmedabad, the cotton-jowar tract of Broach and Surat, western talukas of the Panch Mahals and the Kapadvanj taluka of the Kaira district. The rapid growth of the textile industry in the cities of Gujarat which attracts a large population from the villages is partly responsible for creating scarcity conditions in Ahmedabad, Kaira and the Panch Mahals. The alternative attractive employment which the city of Surat offers makes shortage of agricultural labour a permanent feature in the villages around it. A similar situation has begun to make its appearance in the Pardi and Bulsar talukas and parts of Chikhli taluka of Surat. Quarrying and grass trade in the Pardi taluka, salt works and brick factories in the Thana district and domestic work in Bombay offer attractive employment and draw away large numbers of labourers from the fields of the southern talukas. In the Panch Mahals a further contributory factor is at work in the form of migration of labour during the cotton-picking season to the Baroda and Broach districts. But on the whole, there is an adequate supply of agricultural labour in Gujarat.

METHODS OF RECRUITING LABOUR

Farm servants needed for agricultural and allied work in addition to the casual hired labour are recruited under the *chakar* or servant, the *bhagia* and the *hals* systems

§1. **Chakar System.** The *chakar*, *sathi* or servant system prevails in parts of the Panch Mahals, Ahmedabad, Kaira, Broach and in some villages in the vicinity of Surat city. The period of labourers' employment is six months in the Panch Mahals and the whole year in Broach, Kaira and a few villages of the Chorasī taluka in Surat. More usually, the servant is paid his cash wages

as a lump sum for the period of employment, but monthly payments are also not uncommon. The payment to the servant for the period of employment varies from Rs 40 to Rs 75 in Kaira, the *Bhal* region of Ahmedabad and the Panch Mahals, Rs 30 in Broach, Rs 40 in the Viramgam taluka of Ahmedabad and Rs 20 to Rs 26 in Surat. In addition to cash payment, the servant is given food three times a day, a pair of shoes, one headress, one or two bed-sheets, two to four *dhotis*, two to four shirts, *paherans*, *bandis* or coats made from coarse cloth, tea once or twice, and tobacco once a day. In the Godhra taluka of the Panch Mahals the practice of giving blankets made by local shepherds in addition to other clothing also prevails. The cost to the farmer on payments in kind is about Rs 50 to Rs 75 for the period of the year for which the servant is engaged. The cost of clothing and shoes taken separately approximates to Rs 10 to Rs 15 during the period of employment in the year.

A new system of hiring farm servants is in working in some parts of the Broach district under which a servant is paid Rs 2 to Rs 3 per month and 20 maunds of *jowar* per year which is the period of employment with no other payments in kind.

§2 **Bhagia Labour.**¹ The system of *bhagia* labour is in vogue in the Dholka taluka of the Ahmedabad district, the Bhil tract of the Panch Mahals, the Matar taluka of Kaira and the *Kanam* region of the Baroda and Broach districts.

The labourer employed under the system in Dholka is given one-fourth or one-fifth share of the total produce of the soil excluding fodder. Some farmers pay farm servants 15 maunds of grains for five months which is the usual period for which they are hired. In respect of *bhagia* aided cultivation employment of additional hired labour for sowing, harvesting, etc., during busy seasons is necessary and the cash expenses on this count are shared by the farmer and the *bhagia* labourer in proportion to their shares in the produce. The costs under the heads land revenue, agricultural implements and stock, land improvements, etc., are borne by the farmer alone. In case the farmer plies his cart on hire and the *bhagia* employed by him acts as its driver, the latter gets one-fourth share in the fare earned, it being understood that the expenses of the upkeep of the cart and

¹ Under this system the labourer usually gets a share in the farm produce. At times, however, he is paid a fixed quantity.

bullocks fall on the farmer together with the disbursements on cultivation

In the Panch Mahals the *bhagia* is paid 25 maunds of maize annually or two maunds of grains for every 12 maunds produced. If more than one variety of grains are produced on the fields, the *bhagia* is to have shares from all in the proportion mentioned. In case there are more than one *bhagia* under a farmer the share of labour thus arrived at is distributed equally among all. Some farmers provide the *bhagia* with a blanket in addition annually. The *bhagia* is free to leave the farmer at any time, but in case he so intends he relinquishes employment after harvest. The employment is for all the year round.

In the *Kanam* and the *Matar* taluka of *Kaira*, the *bhagia* gets one-fourth and one-tenth shares in the produce respectively.

§3 *Hali System*.¹ This system of recruiting labour for agriculture is peculiar to *Surat* and parts of *Broach* south of the river *Narbada*. The *halis* mostly belong to the aboriginal castes of *Dublas*, *Naikas* and *Dhodias* except for *Chodharas* in *Mandvi* and a few *Kolis* in *Jalalpore*, while the masters are the *Anavil Brahmins*, *Kanbis* and *Rajputs*. On a fair estimate it may be put down that about one-fifth of the aboriginal population of the *Surat* district are agricultural labourers under the system.

Before being recruited as a *hali* and advanced money for celebrating his marriage a man,² who is generally the son of a *hali* of the same master, has to undergo a period of apprenticeship which may extend over a year and create faith in the would-be master about his sincerity to stick to him faithfully and attend to work with regularity and care. During the period of apprenticeship he obtains four seers of paddy or two and a half to five seers of *jowar* per day as his wage. Usually the master enjoys first preference over the sons of his *hali* or *halis* to place them on the list of his *halis* and only when he no longer wants to add to the number of his farm serfs, the son or sons approach another farmer for a loan for marriage. The farmer provides the grains,

¹ Inadequate information or misconception, the latter especially due to imperfect study by officials who attempted to describe this practice of recruiting labour, have come in the way of obtaining a true picture of the system and its role in agriculture (see *Revision Survey Settlement*, Chikhli Taluka, p. 51). An attempt is made here to present correct details from first-hand study and observations.

² Expenses of marriage of a *hali* amount to Rs 75 to Rs 150 inclusive of things provided for marriage which may be produced on the farm.

vegetables, etc., required for marriage to the extent they are produced on the farm and pays cash for the purchase of clothes and other things and for payment to the bride's father. In a few instances the farmer asks the *hali* to pass a bond or promissory note for the amount advanced and lays down the rate of interest to be charged so that the labourer on paying the principal borrowed for marriage and subsequently for other purposes and interest from the token annual cash salary of Rs 24 to Rs 36 per annum may free himself from the obligation if he so wishes and if he can. In the majority of cases no such bonds are passed and the advance stands as a formal entry in the books of accounts of the farmer. The bond has no validity in a court of law and if the *hali* deserts his master the latter cannot resort to legal aid. The farmer may bring persuasion or pressure, direct or indirect, on the *hali* to obtain his return.

The *hali* is paid in kind and his wage amounts to four seers of paddy or two and a half to four seers of *jowar*, accordingly as paddy or *jowar* is the main crop. Where paddy is an important crop a *hali* gets five seers a day instead of the usual four seers during the harvesting season which lasts for 15 to 20 days in the year and the additional one seer is called *saro*. The *hali* may receive two annas a day in place of grains for some days to purchase petty household requirements. An alternative system of payment is current in the Broach district where a *hali* is paid five annas a day or one and a half to two and a half maunds of *jowar* per month. About giving him food in addition to the grains paid the practice varies in different places from giving bread weighing about half seer and pulses once to food twice or thrice a day on working days. In some areas where bread and pulses are given, this practice is followed for about six months in the year only. In regard to other payments in kind, a pair of shoes and a bed-sheet to each *hali* are given annually and their cost in normal times came to Rs 2-8 to Rs 3. Other things given in kind in most cases are tea and tobacco once a day, two to four *dhotis*, one head-dress, and two to four *bandis* or *paherans* of the kind of shirts of coarse cloth per year. Excluding payments in grains and food, the expenditure on others is about Rs 10 to Rs 15. It is a common custom to give the *hali* pickles, *gur* and some food on religious occasions such as Diwali and Diwasa. Besides, the *hali* builds a cottage for

residence on the master's land and from materials supplied by him. The straw needed to thatch the cottage every monsoon comes to Rs 2 which is the master's liability. The farmers also claim to provide medical aid at their cost to the *hali* and his family when necessary, but it is not borne out by facts.

A peculiar system of *hali bhara* prevails in some of the villages in Surat in which the *hali* is required to fetch a bundle of green fodder weighing about a maund every day from the master's land. The bundles number about 90 for the rainy season for which the *hali* gets eight annas and a little tobacco every day he does the work.

A *hali* works from six to ten months in the year according as the master raises dry or irrigated crops. During the period of idleness the *hali* obtains advances from the master both in cash and kind, the latter of which is known as *khavti* which approximately amount to Rs 10 to Rs 15 and about 15 maunds of *jowar*, or its equivalent in paddy, respectively. The *hali* makes good only a part of the loans by working on the fields and during harvesting hay and the master writes off the rest.

The master allots one-fourth *bigha* of *kyars* as *vavla* to each *hali* for free cultivation, but in actual fact the *hali* only takes the trouble of harvesting and threshing the paddy raised on it as the other operations on the piece of land such as ploughing, transplanting, etc., are put through by all the labourers jointly when carrying out similar work on the master's fields. Some masters pay about four to five maunds of paddy to each *hali* annually in place of the piece of land.

It is estimated that the cost of a *hali* labourer per working day excluding wages in kind comes to six annas. Some farmers giving estimate of total cost of a *hali* stated that excluding payment in grains as daily wage, the total cost of food, clothing, etc., amounts to Rs 100 to Rs 150 annually.

The female *hali* works in the fields for about four to six months in the year and receives the wage in grains equal in quantity to that received by her husband. The nature of work is similar for both the man and the woman except for certain operations such as ploughing, digging, watering irrigated crops, driving carts, etc., which are exclusively carried out by the former. In addition, the female *hali* cleans the cattle sheds of the master daily and in return for doing the work for a year she either gets

Rs 7 or a *saddo* and half-a-seer of pulses each time about twice a month. If a master has many *hals* working under him all the females get this work in turn for one year each. Where the *hal* gets *varla* in grains instead of a piece of land for cultivation, his wife too gets about 2½ maunds of paddy on that account.

§4. Merits and Demerits of the three Systems. Experience has borne out that the *bhagia* system works smoothly and that the relations between the farmer and the *bhagia* labourer are on the whole cordial, although there is not much to say against the *chakar* or servant system except for the bitterness that it gives rise to between the employer and the employee when the latter bargains either for higher cash wage or more and better allowances in kind. There is nothing in favour of the *hal* system except that it permanently attaches the labourer to the master by settling him on his land and thus ensures a regular supply of labour to agriculture. The method of recruitment is demoralizing and harmful to both the parties. It breeds inefficiency, irresponsibility and carelessness in the worker. Being always conscious of his inferior position and of the insulting treatment he receives at the hands of his master, the *hal* never feels enthusiastic about his job. As an instance of lack of earnestness for work on the part of a *hal*, the experience of some enlightened and educated farmers of Surat may be cited. It was found that a *hal* puts in 10 to 20 per cent more work on a piece wage system than under time wage with constant supervision. Although the master feels that he is assured of a cheap supply of labour under it, the system recoils on him like a financial boomerang. The damage to crops in particular and the industry in general due to gross negligence and inefficiency displayed by the *hal* during work cannot be reckoned in terms of money, but is, on the whole, enormous. The grain wage of the *hal* is poor in comparison with the minimum requirements to maintain his family and he has to resort to the unwholesome means of stealing the crops from the fields to make up for the deficit. The extent of loss to the farmers on this count may be judged from the figures of the quantity and value of a crop reported disappearing from the fields in this way in a village.¹ The main crops of the village under discussion are vegetables, mangoes,

¹ The figures relate to Pipalgabhan, a village in Chikhli taluka of the Surat district and were obtained by personal inquiry.

paddy, cotton and *jowar* which are all subject to this malpractice by the Dublas. Although it is not possible to produce figures for all the crops, it was roughly estimated that in 1938 the Dublas sold about 2,000 Bengali maunds of stolen *suran* (elephant foot), an important root crop of the place, from the fields valued on a conservative estimate at Rs 2,000 to three retail dealers on the outskirts of the village who did considerable illicit trade in all the crops enumerated above.

The *halpati* movement of the Bardoli taluka initiated somewhere in 1938 aimed at freeing the serf, *hali*. Minimum wages were fixed both for the male and female workers at four annas and three annas a day respectively to which the farmers gave their reluctant consent as a result of moral pressure exerted by progressive elements in society. For some time this arrangement worked to the apparent satisfaction of all, although an undercurrent of bitterness was fast gathering strength in the relation between the two classes. However, the war and the food crisis that followed undid this little work towards reform and the workers, in view of the difficulty of purchasing foodgrains in the open market with the cash wages earned, were compelled to ask for payment in kind, thus virtually reverting to the old method.

The reform of the system is long overdue and the sooner the farmers realize this, the better for both themselves and the *halis* whom they hold in virtual subjection. Agriculture is not likely to prosper in the long run under a system that saps the field labourer of all essential human elements. Descriptions of the *chakar* and the *bhagia* systems which are prevalent in other districts of Gujarat are given elsewhere and by adopting one of them, especially the former, the farmer in the Surat district will not only prevent the heavy invisible drain on his resources but also add one of the foundations of agricultural prosperity, interesting the labour in the land.

WAGES

In Gujarat wages are paid both in cash and kind. The importance of one form of payment as compared to the other varies from place to place. The wage of the female labour is lower by an anna or two than that for the male, but no such distinction exists when payment is in kind. Wages for light operations like weeding are slightly lower than heavy ones like harvesting, ploughing, digging, etc. The normal rates of cash

wages per day prevailing in various districts of Gujarat are Ahmedabad three to four annas, Broach four to five annas, Kaira four to six annas, the Panch Mahals three to four annas, and in the Surat district for cotton-jowar tract three to four annas, irrigated tract round Surat city five to six annas and southern talukas two to four annas.

In the *Kanam* tract and the Broach district special rates prevail for picking cotton which is eight annas in the former and six annas in the latter for picking one maund of *kapas* from the plants

Considerable area of land in the southern part of Surat is under grass and special rates of payment prevail for harvesting hay. The rates for cutting 100 bundles weighing about 1 lb. each when dry and bundling 1,000 of them are one anna and five annas respectively for *hali* labour and the consolidated rate for both the operations for casual labour is Rs 1-8 to Rs 2 for 1,000 bundles.

Along with the cash wage the practice is prevalent of giving a *roti* with a little *dal* in the Bhil tract of the Panch Mahals, of food twice a day during heavy operations such as harvesting groundnuts and once during light work in Kaira and once in the irrigated region round about Surat city and in some cases in the southern talukas of Surat district.

The system of paying wages in grains also prevails in all the districts. The quantity of grains allowed per day is five to six seers of either *bajri*, *jowar* or paddy in Ahmedabad, three seers of *jowar* normally and 10 to 15 seers during harvest time in Broach, about five seers of either paddy, maize, *bardo* or *banti* in the Panch Mahals and three to four seers of *jowar* in the cotton-jowar tract and two and a half seers of *jowar* or four seers of paddy in the southern talukas in Surat.

In the *Bhal* tract of Ahmedabad and the Hansot mahal of Broach which are some of the important wheat producing regions of Gujarat a different system of paying labour in kind for harvesting the crop has been adopted. For harvesting an acre of wheat in the *Bhal* the wage amounts to 12 to 16 seers of wheat, while in the other region four bundles are paid for harvesting 100 bundles, each bundle yielding about 4 seers of wheat.

To conclude

(a) The supply of field labour in Gujarat is adequate

(b) Despite additions to the numbers of landless labourers, peasant farming is not losing ground

(c) A variety of systems of recruiting labour prevails in Gujarat. Of them the *hali* system works to the disadvantage of all and should be scrapped. The *bhagia* system, if universalized, would lead to a more efficient labour force.

(d) Wages are paid both in cash and kind. The payments vary considerably from place to place, but on the whole they are inadequate and there is a great need for an increase in them.

CHAPTER VII

AGRICULTURAL FINANCE

THE unit of production in agriculture is essentially a one-man concern. While other industries tend to be concentrated in units of ever-expanding size, agriculture remains scattered, individualistic, small scale and chaotic. Besides uncertainty about production, the supply is inelastic as it cannot be adjusted to fluctuations in demand. These peculiarities reflect themselves in the supply of capital to the agriculturist. The methods of raising capital by subscription or on the basis of 'estimated' production are not open to this industry. The credit available to a concern in agriculture is thus limited to the credit of one man or one family.

The cultivators require short-term or current finance of less than a year's duration to meet expenses on cultivation and maintenance and finance for a longer period for the purchase of cattle and expensive implements and land improvements. Although both types of finance are important generally, the former type of accommodation is sought only and except for a few big and enlightened landlord farmers, no agriculturist borrows for the latter purpose. It is on account of poverty and ignorance rather than want of possibilities that the farmers do not undertake land improvements. For instance, in the portion of Kaira district other than *Charotar* large areas of land lie uncultivated for want of finance.¹ The bulk of the agriculturists have hardly any cash on hand at the end of the season. Only the few big landholders have some savings, especially when the crops are exceptionally good.² With the beginning of the sowing operations, therefore, the farmers approach the financing agencies for accommodation both for household expenses and for those on cultivation. It should be noted that the peasant does not ordinarily borrow in a lump sum the amount he will require till the next harvest, but does so in small sums from time to time as and when required. He usually does not make an estimate of the amount that he will need during the interval between sowing and harvesting.

¹ *Report of the Bombay Banking Inquiry Committee*, Vol. III, pp. 272 and 433.

² *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. I, p. 230.

It is difficult to assess the current agricultural finance needed by farmers. Some idea about the amount of cultivation finance required on the basis of area cultivated can be had from figures cited by the witnesses before the Bombay Provincial Banking Inquiry Committee. Most of them had in view the requirements of the farmers raising non-irrigated crops. But this is not likely to vitiate our conclusions as only a small percentage of cultivated land in Gujarat is under irrigation farming. Some of those who appeared before the Committee stated that Rs 10 per acre would be the amount necessary for current agricultural expenses, while others were of the opinion that Rs 15 per acre would be ordinarily required. A third estimate put down that at least Rs 20 per acre are necessary for cultivation.¹ Taking Rs 15 as the amount of finance that would be necessary per acre a sum of Rs 6,78,31,020 would be annually required as cultivation finance on 45,22,068 acres of land that were under the plough in the five districts of British Gujarat in 1942-3.² Estimate of borrowing for maintenance and expenditure on social ceremonies and similar occasions is difficult to arrive at, but it may be stated in general that such loans are far in excess of those for cultivation finance.

FINANCING AGENCIES

The usual agencies meeting the financial requirements of the farmers are the town *sahukar*, the village dealer, the town merchant, the dalal or adatiya who has a hand in the marketing of farm produce, the well-to-do agriculturists, taccavi advances, co-operative societies and land mortgage banks, the last of which usually extends accommodation for redemption of old debts and for effecting land improvements. The Sindhis who supply bullocks to the farmers on instalment payment also play some part in rural finance in North Gujarat, especially in Broach and Kaira. The Pathans also lend money to farmers in Kaira, Broach and the Panch Mahals; in Surat they are almost absent.³ We shall only discuss the more important among them, viz. the private money-lenders, the Government taccavi, the co-operative societies and the land mortgage banks. Although taccavi finance is

¹ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp. 42, 78, 288 and 399.

² *Season and Crop Report, Bombay Province, 1942-3*, p. 31.

³ *Report of the Bombay Banking Inquiry Committee*, Vol. III, pp. 9, 10, 178 and 316.

quantitatively insignificant its study is necessary, as it constitutes an effort of the Government at financing the farmer directly.

§1 **Private Money-lender.** The *sahukar* is by far the most important agency of agricultural finance. In spite of the efforts to supply credit at reasonable cost through co-operative societies and taccavi loans, the money-lender continues to occupy an unrivalled position in providing funds to the agriculturists. It has been stated that about 90 per cent of the capital invested in agriculture in Gujarat is advanced by private money-lenders.¹ The investigations undertaken by the Indian Central Cotton Committee into the finance and marketing of cultivators' cotton in North and Middle Gujarat revealed that the farmers of the two tracts obtained 90·5 per cent and 65 per cent respectively of the total financial borrowings from the *sahukars*.² A survey of one of the backward talukas of the Kaira district showed that about 76·8 per cent of the borrowings of the farmers were drawn from the *sahukars* and the usurers.³ The survey of the Olpad taluka in Surat also brought out that in villages where co-operative societies do not function the money-lenders provide from 94 to 100 per cent of the finance required by the farmers while where credit societies were organized this percentage varied from 77 to 91. Even in the village, where one of the best managed societies in Gujarat was in operation, the *sahukars* supplied 84 per cent of the loans.⁴

(1) *Rates of Interest* Investigations of the Indian Central Cotton Committee revealed that the farmers contracted most of the debts at rates of interest varying from 6 to 12 per cent in North Gujarat and 4½ to 12 per cent in Middle Gujarat. 30·6 and 4·3 per cent of the total loans in the two tracts respectively were obtained at rates over 12 per cent.⁵ The usual rates of interest charged by the money-lenders in Gujarat vary from 9 to 18 per cent.⁶ An intensive inquiry in two villages, one in the north and the other to the south of the Narbada showed that while the average rates of interest on money raised against

¹ Mehta, J. M., *A Study of the Rural Economy of Gujarat*, p. 75. *Report of the Baroda Banking Inquiry Committee*, Vol. I, p. 64.

² *Report*, North Gujarat, p. 3, *Report*, Middle Gujarat, p. 12.

³ Kumarappa, J. C., *Survey of Matar Taluka*, p. 97.

⁴ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp. 222-3.

⁵ *Investigation into the Finance and Marketing of Cultivators' Cotton*, North Gujarat, p. 4 and Middle Gujarat, p. 12.

⁶ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. I, pp. 63 and 69.

land were 12 and 9 per cent respectively the corresponding rates on borrowings on personal security were 15 and 12 per cent. While good agriculturists can get advances at rates as low as 6 per cent, the backward classes of farmers have to pay 36 per cent or more. Especially the Kaliparaj cultivators do not share the benefit of low interest rates and have to borrow at rates varying from 18 to 50 per cent¹. Most of the witnesses before the Bombay Provincial Banking Inquiry Committee stated that while better classes of cultivators obtained loans at 6 to 12 per cent, the backward classes, especially the Kaliparaj in Surat and the Bhils in the Panch Mahals paid 12 to 15 per cent and often as high as 18 to 25 per cent interest. The tenants in the double tenure villages paid 15 to 50 per cent². The surveys of two talukas in Surat showed that more or less the same rates prevailed in these two sub-divisions³. In a south Gujarat village that was surveyed the rates of interest on loans against land and gold and silver ornaments ranged from 10 to 18 per cent, while on those against personal security the common rates were from 18 to 25 per cent⁴. A similar study of one of the sub-divisions in Kaira showed that 9 to 12 per cent were the usual rates for rich cultivators while the poor farmers pay 12 to 25 per cent to borrow money. Only on borrowings under the *khandha* system the rate of interest rose upto 40 per cent⁵.

The Pathan and Sindhi money-lenders, however, are severe in their dealings with the farmers and the rates charged by them are reported to be 20 to 50 per cent⁶. In Kaira the Pathan's rates on advances to Dheds and Bhangis range from 75 to 150 per cent⁷. Some Pathans advance money for one or two months and charge four annas per rupee per month. In case the farmer is unable to repay at the end of the stipulated period, the loan is renewed for a similar period with interest added to the principal⁸. The Sindhis sell bullocks at 60 to 70 per cent above the cost price and allow the cultivators to pay the price in instalments. Where

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, p 211 and Vol III, p 287.

² *ibid*, Vol III, pp 77, 81, 173, 204, 310-11, 322, 336, 350, 353 and 417.

³ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp 226-7 and *Report of the Pardi Taluka Economic Inquiry Committee*, (1926), p. 41.

⁴ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p 258.

⁵ Patel, A. D., *Indian Agricultural Economics*, p 250.

⁶ *Report of the Bombay Banking Inquiry Committee*, Vol III, p. 336.

⁷ Patel, A. D., *Indian Agricultural Economics*, p 251.

⁸ *Report of the Bombay Banking Inquiry Committee*, Vol III, p. 401.

the farmer fails to pay an instalment, the Sindhi demands payment with a penalty within eight days at the end of which if the amounts of instalment and penalty are not made over, the peasant will be deprived of the bullock¹

The rates of interest paid by the indebted farmers examined by the writer during the course of a recent inquiry in the five districts mostly ranged from 6 to 12 per cent. In the Panch Mahals while the big cultivators can obtain finance at $4\frac{1}{2}$ per cent, many of the Bhil cultivators of the Dohad and Jhalod talukas paid 25 to 75 per cent on borrowed funds. The well-to-do Patidar cultivators of Kaira are probably the best placed in Gujarat in this regard. They are able to procure funds at three per cent rate of interest. In the Surat district also the Anavil and Kanbi farmers with standing pay only three to five per cent on their borrowings, while the Kohi, Dhodia, Naika and other backward classes of farmers are charged from 13 to 25 per cent.

(ii) *Ways of the Money-lender* From what has been discussed above it would appear that except in some cases the rates of interest charged by the money-lenders are reasonable. What, however, weighs heavily on the meagre resources of the cultivators who have unfortunately to rely on outside finance are the indirect charges and the subtle ways of the money-lenders². Most of the borrowers have to pay an initial charge known as *watav*, *paghdi*, commission or 'purse loosening due' which may amount from $1\frac{1}{2}$ per cent to 20 per cent of the loan taken³. Even though the percentage of commission deducted from the sum advanced may vary and amount to only a little in the case of well-meaning *sahukars*, the widespread existence of the practice cannot be denied. The writer knows of some Anavil agriculturist money-lenders in Surat who charge a commission of one rupee only irrespective of the amount borrowed. But with the money-lenders in the towns the commission charges do not fall below the percentages mentioned. During the course of inquiry the writer came across many instances in Surat where a commission of one anna in the rupee borrowed which came to $6\frac{1}{4}$ per cent of the loan was not uncommon. In addition, some *sahukars* also

¹ Report of the Bombay Banking Inquiry Committee, Vol. III, p. 399

² Report of the Royal Commission on Agriculture in India, Vol. II, Part I, p. 214

³ Report of the Bombay Banking Inquiry Committee, Vol. III, pp. 12, 322, 403 and 431.

deduct the amount of interest for the first year from the amount of advance even though money may have been borrowed for a few months. If the loan is repaid after a short time the cost of borrowing to the farmers comes to considerably more than what the rate of interest apparently suggests. Sometimes the *sahukars* demand a fixed lump sum of Rs 25 to Rs 50 as interest on every Rs 100 borrowed irrespective of the period of the loan and this interest is recovered from the farmer even if the loan is only for a month or so¹. The ignorant and illiterate farmers also do not know anything about the debit and credit entries in their accounts with the *sahukars* and thus are unable to check the unwholesome practices of their financiers in tampering with the accounts. Sometimes the borrowers, in their eagerness to avoid offending the money-lenders on whom they rely for financial help from time to time, do not draw the attention of their creditors to certain inadvertencies that they could detect².

The scope for exaction through malpractices is considerable among the Bhil farmers of the Panch Mahals district where the money-lender serves as a 'grain bank', as it were, to the cultivators. The farmers borrow for maintenance and seeds in kind and for want of storage facilities in their huts deliver almost their entire crops to the *sahukar* in repayment of grain loans and for disposal if there is any surplus after the arrears on the former account are met. Under these circumstances the *sahukar*, being the only party in the know of quantities and amounts borrowed and repaid, can manipulate things to his advantage³. Greatest extortion of farmers, especially the Bhils, Chodhras, Dhodias, Naikas, Gamtas, Thakardas, etc., occurs when loans are made in kind either for maintenance or seeds for three to four months to be repaid at the next harvest. The quantities to be repaid when the crops are ready are either $1\frac{1}{2}$, $1\frac{1}{3}$ or sometimes double the quantities borrowed, the rates of interest thus ranging from 75 to 300 per cent⁴. The cost which the agriculturist bears for obtaining finance would appear to be out of all proportions when it is realized that funds

¹ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp 272, 279.

² Patel, A. D., *Indian Agricultural Economics*, p. 251.

³ *Report of the Bombay Banking Inquiry Committee*, Vol I, pp 76, 77; *Revision Survey Settlement, Mandvi Taluka* (1904), p 72, Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p 14. *Second Revision Survey, Prantij Taluka and Modasa Mahal* (1929), p. 9.

⁴ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp. 12, 158.

advanced to him should not carry more than $4\frac{1}{2}$ to 5 per cent rate of interest ¹

(iii) *Jarap System* A distinct way of advancing money to the agriculturists known as the *jarap* system prevails in parts of Ahmedabad, the Panch Mahals, and Broach. The *sahukar* lends money on condition that the cultivator is to surrender a certain portion of his crop or crops in return at the next harvest. In case he fails to deliver the specified quantity he has to pay its price calculated at the highest rate during the season ². If during the interval small cash payments are made by the borrower, no reduction is made from the principal but credit is given after the produce is converted into its cash equivalent. A slight variance of this type of financing was found in the Panch Mahals during our investigation where the *bania* money-lender at the time of making a grain loan to the Bhil farmer reserves to himself the option of accepting $1\frac{1}{2}$ times the quantity lent at the next harvest or its money worth at a price stipulated at the time of making the advance in kind. This arrangement has proved of considerable advantage to the money-lenders during the last war when the prices of foodgrains were fluctuating wildly. If the money-lender felt that he could obtain higher prices for the grains than those stipulated in the contract with the debtor he invariably accepted the cereal or cereals. On the other hand, if the market prices were lower than those put down in the contract, he preferred cash payment.

(iv) *Legal Protection to Borrowers* To protect the agriculturists against the malpractices of the money-lenders, the Deccan Agriculturists' Relief Act and the Usurious Loans Act were placed on the statute book. The former aimed at putting a check on the alienation of lands so as to prevent them from passing to the non-agriculturists. Rules and procedure about the maintenance of accounts and recovery of loans were also laid down so as to prevent the money-lenders from manipulating accounts and from obtaining bonds from the borrowers of amounts higher than those actually lent. Provision was made to go into the history of transactions in case of dispute between the two parties. Restrictions were placed on the sale of lands and agricultural implements in satisfaction of the claims of the creditor. A

¹ Report of the Bombay Banking Inquiry Committee, Vol III, p. 46.

² Report of the Baroda Banking Inquiry Committee, p. 59; Bombay Banking Inquiry Committee, Vol III, pp. 328 and 427.

simple insolvency procedure more liberal than the Criminal Procedure Code was provided. The other important provisions of the Act relate to appointments of village registrars to make note of every written obligation for payment of money and to require the money-lender to issue receipts for the payments made to him by the debtor. In accordance with the rule of *damdapat* the amount of interest that a creditor could charge was limited in size to the sum lent. In addition, 'restricted tenure' was introduced by legislation in the backward areas to prevent land from passing from agriculturists to non-agriculturists.

It is true that in the beginning the agriculturists benefited. Their lands were restored and the burden of heavy interest charges was reduced as a result of the courts going into the past transactions. It many times also happened that merely on account of the inability to prove certain genuine transactions the money-lenders lost heavily in their money-lending business. But the reactions of these initial advantages gained by the farmers were heavy. The farmers suffered from severe restrictions of credit after a time. The honest money-lenders ceased to deal with the farmers and began to invest their funds in towns and cities with the result that the number of the agriculturists' financiers was severely curtailed. The unscrupulous and enterprising *sahukar* continued to provide finance to the agriculturists. To get over the limitation about interest to be charged he adopted ingenious devices to evade the provisions of the statutes. He financed the cultivators on condition that the latter agreed to pass bonds for amounts greater than those actually lent. Or, he paid the borrowers amounts much less than those actually contracted for, deducting in this way interest for the first year from the very beginning. He also charged heavy commissions on loans. Borrowers against the mortgage of lands and ornaments received priority. The usual simple mortgage was replaced by conditional sale mortgage which speeded up the pace with which the farmers began to lose ownership in land and either became tenant cultivators or landless labourers¹. The return of land even when the loans were repaid in full with interest depended upon the honesty and good sense of the money-lenders. To be on the safe side, the *sahukar*, in many instances, preferred to eject the farmers and acquire the land in order to remove the

¹ *Report of the Pardi Taluka Economic Inquiry Committee* (1926), p. 42

last difficulty in his way by depriving the cultivator of the right of possession. At the same time, some of the agriculturists began to borrow on whatever terms that were dictated and then resorted to the court for redress¹.

Most of the provisions of the Deccan Agriculturists' Relief Act were thus evaded. The Registrars were also found corrupt and served no useful purpose with the result that the Government subsequently ceased to make new appointments. Conciliation similarly proved a failure and the part of the Act relating to insolvency never came into effect.

In 1938 an interim measure pending the enactment of a Debt Relief Act was framed for the temporary relief of the agriculturists and for preventing the forestalling of the law. This temporary measure was intended to serve the small holder who was defined as one possessing irrigated lands not exceeding six acres or eighteen acres of other land or lands of whatever description the total agricultural assessment on which did not exceed Rs 30 and who cultivated the lands himself or was an inferior village servant. Where a person held both irrigated and other lands, one acre of irrigated land was to be computed as equal to three acres of other lands. Joint Hindu families holding lands subject to the same limitations and of which at least one of the members was cultivating personally were also termed as small holders for the purposes of this Act. It was laid down that all pending proceedings against such small holders or those that might be instituted for sale of land were to be stayed by the Collector, provided interest was paid on the sum for which land was to be sold for the actual period or one year from the date on which the said sum became payable. One dwelling house occupied by the judgement debtor, standing crops and milch cattle not exceeding two were to be exempt from attachment and sale. The small holder was also debarred from privately transferring the lands except with the Collector's permission.

The Debt Relief Act of 1939 which followed the temporary measure provided for the establishment of Debt Adjustment Boards and fixed the rates of interest on secured and unsecured advances at 9 and 12 per cent respectively and ruled out compound interest in dealings between the *sahukars* and the

¹ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp 135-6, 162-3, 191 and 210.

agriculturist borrowers The Boards were to allow 12 per cent interest on debts contracted before 1 January 1931 and after the interest has thus been calculated scale them down by 40 per cent if the loans were borrowed before 1 January 1931 and by 30 per cent if they were taken between 1 January 1930 and 1 January 1931 Interest was to be calculated at nine per cent or at the agreed rate whichever was lower after 1 January 1932 till the date of application for relief The courts of law were prohibited from awarding by way of arrears of interest a sum exceeding the principal Similarly it was provided that while taking account of the past transactions of the debtors who apply for relief, the Boards should reduce the amounts of the principal found due on 1 January 1931 by 40 per cent and by 30 per cent for loans contracted between 1 January 1930 and 1 January 1931 While taking into consideration the past transactions the Boards were required not to treat the accumulated interest which may be converted into principal as part of the principal sum due It may broadly be stated that the Boards were further authorized to scale down the principal found due to 80 per cent of the repaying capacity of the debtor as measured by his immoveable property and other assets mortgaged or otherwise In case the creditors agree to scale down their total claims to 50 per cent of the value of the assets of their debtors, they may be paid the scaled down amounts in the form of bonds issued to them by the Provincial Land Mortgage Bank On the other hand, the amounts of the bonds may be recovered from the debtors in the form of instalments which may not exceed 25 in number

The Debt Relief Act was applied to the Pardi and Bulsar talukas of Surat and Dohad and Jhalod talukas of the Panch Mahals district some four years ago and was made operative in the following subdivisions mentioned against the respective districts from 1 May 1945

District	Sub divisions
Ahmedabad	Dhandhuka, Ghogha, Prantij, Modasa, Viramgam, Sanand.
Broach	Vagra
Kaira	Matar, Mehemdabad, Thasra, Kapadvanj
Panch Mahals	Godhra, Halol, Dohad, Jhalod
Surat ¹	Mandvi, Valod, Jalalpore, Chikhli, Bulsar and Pardi.

¹ From 20 December 1945, the Act was also extended to 14 villages of the Bardoli taluka. From 1 February 1947, the Act was applied to the whole province.

The amounts due to co-operative societies have also been brought under the purview of this legislation. The general practice seems to be of constituting one Debt Adjustment Board for every two talukas as has been done in the Surat district, viz. one for Pardi and Bulsar and another for Chikhli and Jalalpore. The Boards meet at the headquarters of all the talukas under their jurisdiction periodically so as to minimize the inconvenience to farmers and their creditors attending their meetings¹. It was laid down that the debtors in the first instance and failing that the creditors were required to apply to the Boards within six months of the enforcement of the Act. This provision worked to the disadvantage of the creditor because in case he failed to apply for the settlement of his claims within the stipulated time, the courts did not subsequently assist him to recover his dues and he would have solely to rely on the goodwill of the borrower to regain the amount lent. The time limit for applying to the Board for conciliation of the claims was considered to be short and there was popular agitation for its extension to one year. In view of the unsettled conditions created by the last war, it has not been possible to gauge the Act properly. In the Bulsar and Pardi talukas of Surat 2,172 applications were received both from debtors and creditors upto 31 October 1945 out of which 1,562 were disposed of till that date. The total amount of debt adjusted was Rs 1,59,191. Inquiries revealed that in the Dohad and Jhalod talukas debts also have been considerably scaled down, but the flow of credit from the money-lenders has frozen to a very great extent with the result that the farmers have been driven to borrow from Pathans at exorbitant rates. The common device adopted by the money-lenders of Surat to circumvent the provisions of the Act is to persuade the debtors to exchange fresh bonds for the amounts borrowed previously including interest due on them and thus save them from being scaled down on the ground that they were not contracted during the periods specified in the enactment.

The contraction of credit and the hardships to the small farmers in need of finance are the immediate consequences of the ameliorative measure. In addition certain undesirable practices of getting a bond of a larger amount than actually lent, deducting

¹ In 1947 the Government decided to dissolve all the Debt Adjustment Boards established under the Bombay Agriculturists' Debt Relief Act and to entrust the administration of the Act to civil judges.

interest for the first year from the amount of the loan, charging *walatav* or commission, etc., are not capable of being remedied by legislation. Here and in similar other matters it is an enlightened peasantry and a class of lenders with a sense of honesty and fair play who will be of great help in evolving better methods of finance. The periodical meetings of farmers arranged by the Chairmen of the Relief Boards to educate the cultivating classes about the provisions of the Act are indeed a step in the right direction. But the success of this type of legislation rests on the farmer always remaining conscious of his moral obligation to repay a lawfully contracted debt. In addition to the aim of safeguarding the interests of the farmers, it would also be desirable to try to educate the money-lenders about the real implications of the new legislation and an assurance should be given to them that their legitimate interests would be safeguarded. It is also necessary that the co-operative movement and the land mortgage banks should be on the alert to provide credit to the farmers when necessary and in the event of the private sources of finance threatening to dry up. Above all, a vigorous drive of agricultural reform to place farming on a profitable basis is the foremost necessity and unless this is achieved the vicious circle of deficit economy and accumulation of debts will assert itself in spite of debt legislation.

Another piece of legislation that was enacted in the interest of the farmer is the Bombay Money-lenders' Act, 1939, which provides for the registration and licensing of money-lenders and makes the pursuit of the business without a licence an offence. The operations of the money-lenders are restricted to the area or areas for which they hold licence. The courts will not entertain suits brought by the non-licensed money-lenders for recovery of their dues. Stringent provisions have been made for the maintenance of clear and separate accounts of the principal lent to, and interest accruing from, a debtor, for sending the annual statements of accounts to the debtors and for giving of receipts for all payments. The Act has not been enforced. Had it been in operation along with the enactment relating to debt relief, besides acting as a healthy check on the *sahukars*, it would have served the farmers from being fleeced by unscrupulous financiers like, for instance, the

Pathans in the Panch Mahals who are making hay when the sun shines ¹

§2 **Taccavi Advances.** The statement on pp 177-8 shows the taccavi advances and interest on them in the five districts of Gujarat in 1940-1 along with the amounts outstanding under both the heads up to date

These figures indicate that while taccavi advances are unpopular in the Surat district, in Ahmedabad such advances are fairly large. Kaira and Broach and Panch Mahals stand midway and the amount of taccavi help to the farmers in both the areas is more or less equal. As compared with the previous years, however, it should be pointed out that the new advances taken in 1940-1 have fallen considerably while repayments on account of both the principal and interest assumed an upward trend. The taccavi loans in 1938-9 and 1939-40 amounted to Rs 2,63,000 and Rs 1,57,000 respectively as against the corresponding repayments during these years of Rs 1,43,000 and Rs 2,54,000. The amounts of interest accruing in 1938-9 and 1939-40 were Rs 1,16,000 and Rs 1,32,000 respectively while payments on this count during the two years were Rs 79,000 and Rs 1,05,000 respectively ²

These loans are essentially given in times of floods, famines, adverse seasons, and similar other calamities to help the farmers to purchase seeds, build houses and to some extent to see them through till the next harvest.

The figures show the large amounts of unrecovered taccavi including interest on them which is partly due to the system of repayment in instalments. The excessive unauthorized overdues may be accounted for by the fact that these advances are largely made to the poor needy farmers in times of adversity and because of their meagre incomes from farming they are unable to meet the instalments regularly.

It is not possible to assess the proportion taccavi advances bear to the total agricultural finance. The figures about the needs of rural finance which have been cited, however, would make it obvious that taccavi constitutes an insignificant part of the total finance of the cultivator. It was found that even in

¹ The Act to control money-lending enacted by the Government of Bombay in 1947 will remedy this lacuna.

² *Land Revenue Administration Report, Bombay Province, 1938-9*, pp 72-5 and 1939-40, pp 74-7.

TACCAVI FINANCE IN GUJARAT, 1940-1

District	Principal						Amount outstanding on 30 September 1941
	Balance on 1 October 1940	In the year		Amount written off or remitted	Overdues		
		Amount advanced	Rs		Amount repaid	Rs	
Ahmedabad . .	Rs 10,65,558	Rs 4,087	Rs 1,99,375	Rs 9,684	Rs 5,323	Rs 1,86,465	Rs 8,60,586
Kara	5,66,238	3,894	84,862		45,545	8,892	4,85,270
Broach and Panch Mahals	5,69,505	13,443	71,912		27,367	1,486	5,11,036
Surat . .	4,500	1,500	1,500				4,500
Total	22,06,801	22,924	3,57,649	9,684	78,235	1,96,843	18,61,392

TACCAVI FINANCE IN GUJARAT, 1940-1¹—(CONT.)

District	Principal						
	Balance on 1 October 1940	In the year			Overdues		Balance of interest due on 30 September 1941
		Amount accruing	Amount repaid	Amount written off	Amount suspended	Unauthorized arrears	
	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Ahmedabad . . .	3,01,996	40,511	71,192	7,169	1,176	1,36,791	2,64,146
Kaira	53,042	28,278	28,521		1,456	3,309	52,799
Broach and Panch Mahals	2,05,091	7,723	22,255		1,20,941	456	1,90,559
Surat	354	316	670				
Total .	5,60,483	76,828	1,22,638	7,169	1,23,573	1,40,556	5,07,504

¹ Annual Report of Land Revenue Administration, Bombay Province, 1940-1, pp. 68-9.

the poor and backward Matar taluka of Kaira, taccavi loans amounted to only 13·7 per cent of the farmers' total borrowings.¹

This type of finance is unpopular with the farmers because of the dilatory procedure to be followed which results in unusual delay in obtaining loans.² Applications for taccavi pass through the village officers. They certify that the applicant is a *khatedar* and that his property is unburdened and then forward the application with their certificate to the mamlatdar who makes further inquiries, if necessary, before sanctioning the amount. If the amount applied for is in excess of what he can sanction, the taluka officer forwards the application with his opinion to the Collector. After sanction, the payment is made by the treasury clerk.³ This takes an unduly long time. In one instance in Broach district one member of a co-operative society applied for taccavi for constructing a well in May 1927 but the loan was sanctioned in June 1928. The construction work that the farmer had commenced in the hope of getting the loan in the meantime collapsed in the monsoon as he could not finish it before the rains. He had, therefore, to ask for a further advance as the former loan proved inadequate on account of the damage caused.⁴

One more unfavourable feature of these loans from the point of view of the farmers is the rigidity in their collection. Instances were not wanting where at the time of informing about the sanctioning of loans the talati warned the recipients that if they did not repay the amounts on the due dates, recovery would be effected through the sale of their animals.⁵ The poorest farmers are usually beyond the pale of taccavi finance⁶ either for want of property or good credit standing and have to rely on the *sahukars* for financial help.

Although the rates of interest on taccavi advances range from 6½ per cent to 7 per cent in the various districts, the actual cost of this form of finance to the agriculturist is heavy. It is said that the borrower has to bribe the small intermediate functionaries to obtain sanction and payment of the loan. He has to pay

¹ Kumarappa, J. C., *A Survey of Matar Taluka*, p. 97.

² *Report of the Pardi Taluka Economic Inquiry Committee*, pp. 41-2.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 160.

⁴ *Report of the Bombay Banking Inquiry Committee*, Vol. III, p. 205.

⁵ *ibid.*, p. 192.

⁶ *ibid.*, p. 183.

small amounts to the village officers, the treasury clerk and the peons at the taluka headquarters. An estimate puts down that the farmer gets only Rs 90 for every Rs 100 borrowed from the Government and the rest goes by way of payment to the talati, patel and clerks in the taluka¹. Another source states that a cultivator is lucky if he gets 75 per cent of the amount borrowed. In times of famine when the cultivators are very needy these extra payments reach a very high level². The patel and the talati have to be bribed again if the farmer is unable to pay the instalment on due date and wants an extension of time. From the point of view of cost, therefore, the taccavi finance to some extent resembles the *sahukar's* advances, but lacks the elasticity, the personal relationship and the accommodating spirit which the money-lender displays. Taccavi advances obtained through co-operative societies are also subject to unusual delays although payments by way of bribery to officials are absent. It should be noted here that taccavi to members of co-operative societies are advanced through the respective societies with which they are connected unless the societies want the members to be financed directly.

§3 Co-operative Movement. The table on p. 181 gives an idea of the place the co-operative movement occupies in rural finance in British Gujarat.

It will be clear that comparatively speaking co-operation has made good progress in the Broach and the Panch Mahals districts. Talking of the movement in the whole of British Gujarat it is apparent that its progress leaves much to be desired. On the basis of our calculations we find that only about 5.3 per cent of the rural population has come within the fold of the co-operative movement. The proportion of one society to approximately five villages is also highly inadequate. The working capital of Rs 104.5 per member at the disposal of the societies compares unfavourably with his financial needs. It will be seen from the table that the position in regard to them in Gujarat is even more unsatisfactory than in Bombay Province.

(1) *Inadequate Finance.* Co-operative societies occupy an insignificant place in rural finance. An investigation in North Gujarat showed that as against Rs 1,72,076 borrowed from

¹ Report of the Bombay Banking Inquiry Committee, Vol III, p. 309.

² Report of the Royal Commission on Agriculture in India, Vol II, Part II, p. 160.

CO-OPERATIVE MOVEMENT IN RURAL FINANCE.¹

District	No of villages in the district	Total rural population of the district (000's)	No of societies in the district	No of members of societies in the district	Population brought within the fold of co-operative movement in the district assuming that each member has a family of five	Percentage of societies to villages in the district	Percentage of population covered by the co-operative movement to total rural population	Working capital of the societies in the district (000's)	Working capital per member
Ahmedabad	876	6,70	85	3,940	19,700	9.7	2.9	Rs 4,60	Rs 116.6
Brooch and Panch Mahals	1,022	7.53	340	13,443	67,215	33.2	8.9	15.99	118.9
Kaira	572	7.68	90	5,960	29,845	15.8	3.9	3.01	50.4
Surat	785	6.61	134	7,025	35,125	17.0	5.3	8.17	116.2
British Gujarat	3,255	28.52	649	30,377	1,51,885	19.9	5.3	31.77	104.5
Bombay Province	21,472	1,54.38	3,777	1,89,187	9,45,935	17.5	6.1	2,69.68	142.5
British India	4,59,209	25,82.28	93,088			20.2			

¹Census of India, 1941, Vol III (Bombay), pp 2-3 and Report on the Working of Co-operative Societies, Bombay Province, 1940-1, pp 108-9

village *sahukars*, debts to co-operative societies amounted to only Rs 4,400 In Middle Gujarat, on the other hand, a similar investigation revealed that out of Rs 2,31,900 borrowed by 1,048 farmers Rs 42,692 or 18 4 per cent were due to co-operative societies.¹ The survey of the Olpad taluka in Surat showed that only 8 4 per cent of the borrowings of the farmers examined were from co-operative societies.² In the Matar taluka of Kaira also investigation showed that only 5 per cent of the borrowings of the farmers whose conditions were studied were owed by the societies.³

Insufficient financing by co-operative societies forces their own members to resort to the *sahukars* to obtain the balance of the funds needed.⁴ Out of 952 farmers examined in Middle Gujarat during the course of an inquiry it was found that about 90 had borrowed from other sources besides the co-operative societies of which they were members.⁵ The unwillingness of the societies to lend for household expenses and the fixing of the maximum credit that can be extended to a farmer not from the point of view of his needs but according to his financial standing, although necessary to maintain the solvency of the movement, also result in multiple allegiance of the farmer to obtain enough finance.⁶ Some of the members who want more finance than the limits sanctioned for them by the societies induce friends who are members to borrow in their own name and transfer the amounts to them.⁷ The insistence on punctual repayments also results in shunning the farmers to the money-lender which lands them deeper and deeper into debts.⁸ Some of the co-operative societies prefer to make fresh advances only after those made previously are repaid. This practice coupled with the routine that has to be gone through results in considerable delay in supplying

¹ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in North Gujarat*, Indian Central Cotton Committee, p 4 and *Middle Gujarat*, p 12

² Shukla, J B, *Life and Labour in a South Gujarat Taluka*, p 223

³ Kumarappa, J C, *A Survey of Matar Taluka*, p 97

⁴ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp 50, 70 and 257, also *Report of the Pardi Taluka Economic Inquiry Committee*, p 44

⁵ *Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p 12.

⁶ *Report of the Bombay Banking Inquiry Committee*, Vol III, pp. 240 and 278

⁷ Patel, A D, *Indian Agricultural Economics*, p 263

⁸ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p 191.

finance to the farmers at the opportune time¹ and drives the needy cultivator to the prompt and accommodating *sahukar*. Because of more than one agency which lend to the farmers it is not possible for either agency to know the amounts borrowed by him. This results in the over-financing of the cultivator. To prevent the farmer from borrowing beyond his capacity, some sort of co-ordination between the *sahukar* and the co-operative society to exchange information about his borrowing is necessary.² One great difficulty in achieving this end is the conflicting aims of the *sahukar* and the co-operative society. While the former is only concerned with deriving the maximum profits out of his transactions, no matter what their ultimate effects on the farmers, the society's objective is to help him reduce his debt, minimize his borrowing and thus make him self-reliant as far as possible.³

(ii) *Advances and Overdues* The working of the societies is also unsatisfactory. Below are given the figures of loans to the members in 1940-1, the total advances till that date and the amounts that are overdue.⁴

District	Advances to members in 1940-1	Total advances due up to date	Overdues of the total advances due
	Rs	Rs	Rs
Ahmedabad	86,628	3,70,203	2,06,332
Broach and Panch Mahals	4,14,411	13,57,645	4,85,677
Kaira	23,155	1,87,881	1,52,554
Surat	1,70,891	6,40,588	3,74,111
British Gujarat	6,97,085	25,56,317	12,08,674

It will be noted from the statistics given above that out of the total advances of Rs 25,56,317 outstanding at the end of 1940-1, Rs 12,08,674 or more than 47 per cent were overdue. In many cases the office-bearers of the societies are themselves

¹ *Report of the Bombay Banking Inquiry Committee*, Vol III, p 340. Also Kumarappa, J. C., *Survey of Matar Taluka*, p 100.

² *ibid*, pp 242 and 313.

³ *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, p. 214, and Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p 252.

⁴ *Annual Report of the Working of Co-operative Societies in the Province of Bombay, 1940-1*, pp 108-9.

the worst defaulters and, therefore, are unable to press others to repay the sums borrowed punctually. Overdues are usually heavy where bulk of the members of the societies belong to the upper classes¹ In absence of data for years following 1940-1 it is difficult to survey the effects of war on the co-operative movement. The writer during the course of discussions with the Assistant Registrar, Ahmedabad, could know, however, that as a result of the favourable conditions created by the last war, most of the overdues have been wiped out on the one hand, and the demand for financial accommodation by members has considerably shrunk, particularly during 1942-4. Some of the chairmen of the village co-operative societies in Surat, with whom the writer had the opportunity to discuss this aspect, observed that overdues have completely disappeared, and the demand for loans from members has fallen to 25 per cent of the pre-war level by June 1945. It is necessary to take steps to sustain the improvement in the position of the co-operative societies in the post-war period.

(iii) *Resources of the Co-operative Movement* On p. 185 are indicated the main sources from which the co-operative societies draw their working capital.

Out of Rs 31½ lakhs of total working capital, Rs 5½ lakhs or 17.4 per cent was by share capital and Rs 2½ lakhs or 8.7 per cent by way of deposits from members, while reserve and other funds contributed Rs 11¼ lakhs or 37 per cent. Deposits from provincial and central banks and from non-members or the external sources of finance together accounted for about 36 per cent of the working capital. Deposits of provincial and central banks alone come to Rs 8½ lakhs or nearly 27 per cent. Thus as against 63 per cent of internal finances, external sources amount to 37 per cent of the total liabilities of the primary societies. As against this, out of the total working capital of about Rs 270 lakhs of all the co-operative credit societies in Bombay province, Rs 132 lakhs or about 49 per cent of the total is drawn from the deposits of non-members and provincial and central banks. Thus the co-operative credit societies of Gujarat are much better placed in this regard than the movement in the province. The members' deposits mostly represent entrance fees of the members and the compulsory deductions by way of deposits from the

¹ *Report of the Bombay Banking Inquiry Committee*, Vol. III, p. 75

RESOURCES OF THE CO-OPERATIVE MOVEMENT¹

District	Paid-up share capital	Members' deposits	Non-members' deposits	Deposits of Provincial and Central Banks	Reserve fund	Other funds	Total working capital
Ahmedabad	90	23	39	1,88	1,05	14	4,60
Broach and Panch Mahals	3,69	80	59	4,38	5,99	51	15,99
Kaira	23	42	16	1,11	1,00	8	3,01
Surat ..	73	1,32	1,68	1,16	2,78	20	8,17
British Gujarat	5,54	2,77	2,83	8,53	10,82	92	31,77
Percentage to total working capital	17.4	8.7	8.9	26.9	34.1	2.9	100.00
Bombay Province	3,388	16,73	16,63	1,14,74	81,40	5,51	2,09,68
Percentage to total working capital	12.5	6.1	6.1	42.5	30.1	2.0	100.00

¹ All figures in this table are in thousands of rupees.

* The figures in this column are slightly higher than the totals of the amounts of all the columns because of the inclusion of small sums of deposits from societies and the Government.

amounts advanced to them¹ Besides, the larger the proportion of internal finance to total working capital, the greater is the soundness of the movement Reliance on external finance from this point of view is, no doubt, a weakness of the co-operative movement External finance brings with it external control and undue interference in the day-to-day working of the societies. It will be clear from what has been said that the important principles of co-operation, viz thrift and self-help, which alone can lay the foundation of a healthy movement, are at disregard at present This has robbed the society of its lofty ideal of bringing the poor farmer-member into his own by educating him in the good ways of life and by inculcating in him self-reliance and the saving habit to put something by for the rainy day

(iv) *Audit Classification* The audit classification of co-operative societies will give some idea about the unsatisfactory state of the co-operative movement in Gujarat In 1940-1, 767 co-operative credit societies were distributed into different classes as follows²

Division	A	B	C	D	Unclassed
Ahmedabad comprising Ahmedabad, Kaira and Panch Mahals districts	9	89	49	206	2
Surat comprising Surat and Broach districts	58	111	89	154	
Total	67	200	138	360	2

It will be seen from the table that a little over 47 per cent of the total number of societies are in D group while less than 9 per cent of them are found in the highest class As between the two divisions, the position in Surat and Broach is much better than that in the other three districts A little over 14 per cent of the 412 societies in the former two districts are in A class while those in the D class are 37 per cent of the total On the other hand, in Ahmedabad, Kaira and the Panch Mahals while less than 3 per cent of the 355 societies are in the first category those in the last are about 58 per cent of the total In comparison with both Bombay and British India the position of credit societies in Gujarat as indicated by audit classification is

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 156.

² For an explanation of this classification, see *Review of the Co-operative Movement in India, 1939-40*, Reserve Bank of India, pp 8 and 89.

unfavourable. Although in most of the provinces the percentage of credit societies in A class is below two, nowhere, at the same time, the proportion of those in D class exceeds 42 per cent.¹

It has been claimed that for various reasons the audit classification of the co-operative societies is no correct pointer to the financial standing of the movement as a whole. The grouping of co-operative societies into various classes is made rigidly on the basis of the percentage of overdues and this, it is argued, leads to wrong conclusions about the movement. It has been further argued that it is possible to get a true picture of the financial strength of co-operative societies if while making this classification along with overdues an equal importance is given to recoveries, particularly when fresh finance is much less than repayments. Two factors that are at work to make recoveries exceed fresh financing should be mentioned. When overdues reached unduly heavy proportions and brought the working of the movement to a virtual standstill, a policy of curtailing new loans as far as possible and concentrating mainly on recovery of advances long overdue was adopted. Special recovery officers were appointed to help the societies in this process either by exerting pressure on members to repay their dues to the societies, or, failing that, by foreclosure and sale of lands which served as security for advances. The other important cause at work was the high prices which the farmers realized for their crops during the war as a result of which they could curtail fresh borrowings on the one hand and repay their dues to the societies on the other. It will, however, be agreed that in normal times, next to limited resources, overdues are the worst hindrance in the working of the movement. The audit classification, therefore, does give a basically correct picture of the soundness of the co-operative movement.

(v) *Rates of Interest* The interest charged by the societies to their members on loans varies generally from 9½ to 12½ per cent except in Broach where the usual rate is 7½ per cent. From our study of interest rates of the *sahukars* it will be seen that the rates of the co-operative societies do not compare favourably with those commonly charged to well-to-do farmers by the *sahukars* in Gujarat.² The rates of interest paid by the co-operative societies on borrowings which usually range from 6 to 6½ per cent,

¹ *Ibid*, p. 89.

² *Report of the Bombay Banking Inquiry Committee*, Vol. II, p. 25.

except for Ahmedabad where commonly it is $3\frac{1}{2}$ per cent, is partly responsible for the high cost of co-operative finance. The high ratio of the cost of management to working capital of 1 : 42 is another important contributory cause for the high rates charged.¹ Large amounts remain idle with the banks in the cities during the monsoon when business is slack. On the other hand, the agriculturist is in need of finance during rains for agricultural operations and maintenance. If by some arrangement the idle funds in the cities can be lent to the agriculturists at cheap rates, the cost of co-operative finance would be considerably lowered.² It cannot be denied at the same time that co-operation has succeeded in a large measure in putting a healthy check on the *sahukar*'s ways and the rates of interest charged by him, although it has not succeeded so far in tackling the important problem of rural indebtedness.³

(vi) *Management* Causes for the slow progress of the co-operative movement in Gujarat are too well known to need any discussion here. Something should, however, be said about the persons in charge of the management of the societies. The office-bearers in many cases are themselves borrowers who among themselves appropriate the bulk of the loans, leaving little for other needy members.⁴ Frauds and mismanagement by those in power are also not uncommon even in sound societies. Recently, one of the first class societies in the Surat district with an office building of its own was involved in misappropriation of Rs 15,000 by some members of its managing committee.⁵ There are many instances where prominent money-lenders have come to occupy positions of chairmen or members on the managing committees of societies and taking advantage of their position, have drawn to them honest and well-meaning agriculturists in need of finance, leaving the less resourceful to the societies.⁶ The cultivators indebted to the office-bearers were induced to take loans from the societies, ostensibly for production purposes,

¹ *Annual Report on the Working of Co-operative Societies in the Province of Bombay, 1940-1*, pp 110-11. Also see *Report of the Post War Development Committee*, Bombay Provincial Co-operative Institute, p 21.

² *Report of the Bombay Banking Inquiry Committee*, Vol II, p 60.

³ *ibid*, Vol III, p 22.

⁴ *ibid*, Vol III, p 428.

⁵ Society of Degam, Chikhli taluka, Surat district. Incidentally, it may be mentioned that this society belongs to the first of the four audit classes.

⁶ *Report of the Bombay Banking Inquiry Committee*, Vol II, p. 20.

but in actual fact the borrowings were utilized to repay the old debts to the *sahukars* ¹

(vii) *Other Causes of Slow Progress* Instances have also occurred where loans to finance agricultural operations were wasted on unproductive expenditure. It has been difficult for the society to follow the activities of the members after the loans are made. To prevent this happening it has been suggested that loans should be made in kind and instead of supplying cash, the various materials required by the farmer in cultivation should be purchased by the societies and supplied to him. Attention should be drawn in this connexion to certain Bhil societies working in the Panch Mahals district which not only lend but also recover the loans in kind ²

The better classes of farmers who obtain cheap credit from the *sahukars* do not patronize the co-operative societies and thus act as the *sahukars*' stronghold ³. Partly because of the high rates of interest and partly due to the unlimited liability principle many well-to-do farmers have not joined the co-operative societies which they otherwise would have done and lent valuable strength to the movement. The prevalence of double tenures over large areas of Gujarat has also acted unfavourably on the progress of co-operation. The societies find it unsafe to undertake any special scheme for the good of the agriculturists of these areas ⁴.

(viii) *Land Mortgage Banks* The problem of rural indebtedness has assumed, as we shall see, a serious proportion in Gujarat and there is an urgent need for its redemption so as to enable the farmer to start with a clean slate on a new career. The scope for effecting land improvements is large. Expediency demands that co-operative societies with their limited and largely short-term resources should limit their operations to short-term seasonal financing of agriculture. The keenly felt need for a specialized agency to take up long-term agricultural finance for these and similar other purposes asserted itself in the establishment of primary district land mortgage banks followed by the Provincial

¹ Patel, A. D., *Indian Agricultural Economics*, p. 263.

² *Annual Report on the Working of Co-operative Societies in Bombay Province, 1940-1*, p. 18, and *Report of the Bombay Banking Inquiry Committee*, Vol. II, p. 228 and Vol. III, pp. 248 and 257. Also see Mehta, V. L., *A Plea for Planning in Co-operation*, pp. 13 and 16.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 204.

⁴ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, pp. 207 and 319.

Land Mortgage Bank in January 1936 to supply finance to the farmer from its paid-up capital and from debentures. There are at present three primary land mortgage banks in Gujarat, of which the one at Broach was the earliest to be established. The table on p 191 gives in a summary form the position and working of the three primary land mortgage banks in Gujarat.

The loans are usually made in amounts upto Rs 10,000. The minimum amount that can be borrowed is Rs 400 except in the case of Kaira where the lower limit is Rs 300. The loans are made for periods not exceeding 15 to 20 years. Money is advanced for redemption of past debts, land improvements, purchase of lands, implements and stock, agricultural machinery, etc. The rate of interest charged is from 6 to $6\frac{1}{2}$ per cent. Between the three primary land mortgage banks there are 430 borrowing members contributing Rs 33,030 as share capital as against 205 non-borrowing members providing a share capital of Rs 28,940. The average amount of share capital for borrowing and non-borrowing member comes to Rs 76.8 and Rs 141.1 respectively. If the B class members who are coparceners in loans with the borrowing members and who are, therefore, required to join in the execution of mortgage deeds passed in favour of the land mortgage banks are included in the first category, the number of those taking loans from banks comes to 784. The inclusion of non-borrowers within the fold is a welcome innovation as it lends not only financial strength and added status to the banks, but also ensures their efficient management and a healthy check on their working. The total advances by the Provincial Land Mortgage Bank through the three primary land mortgage banks upto the end of the financial year 1940-1 were Rs 5,30,946 among 430 borrowing members bringing the average loan to Rs 1,235. If the B class members are included, the average amount of advance comes to a little more than Rs 677. It need hardly be elaborated that as compared with the magnitude of the problem of rural indebtedness and the scope for investment in land improvements, land mortgage finance has not made any lee-way. The number of borrowing members also forms an insignificant proportion of total cultivators.

On account of the elaborate procedure through which the loan applications pass from the time they are made till the amounts asked for are sanctioned by the Provincial Land Mortgage Bank,

PRIMARY LAND MORTGAGE BANKS

Primary bank	No of members			Share capital			Loans distributed in 1940-1		Amount outstanding on 30 June 1941
	Borrowing	Non-borrowing	B class	Borrowing	Non-borrowing	B class	No	Amount	
									Rs
Brosch ..	208	3	127	16,430	150		15	30,446	2,29,407
Katra ..	136	55		9,395	6,035		20	47,867	1,67,187
Surat ..	87	147	227	8,205	22,755		2	1,400	1,34,352
Total ..	430	205	354	33,030	28,940		37	79,713	5,30,946

unusually long delays occur in obtaining finance which far exceed those in respect of co-operative societies. A considerable time is taken up in the valuation of lands of the intending borrowers carried out by the land valuation officers of the primary land mortgage banks. The encumbrances or other charges on the lands offered as mortgages are also examined in consultation with the village officers and the registrars of mortgage at the taluka headquarters. In view of the enforcement of the Debt Relief Act in Gujarat, land mortgage finance by this agency will assume great importance and unless the procedure of scrutinizing and sanctioning loans is simplified, the banks will find it difficult to cope with the increased business.

The undesirable phenomenon of overdues both regarding the repayment of principal and interest which had almost become a part of the co-operative movement in the pre-war days manifests itself with equal intensity in regard to mortgage loans. This may largely be due to unfavourable seasons. But there is another important reason also. Information about the employment of borrowings from the primary land mortgage banks of Gujarat is not at hand, but there is strong reason to believe that almost all of them are utilized in repaying old debts¹. When little or nothing of the mortgage finance is put to productive use like land improvements, purchase of good implements and stock, etc., it is obvious that overdues pile up and seriously impair the development of land mortgage banking². It has been stated that due to the failure of members to pay interest punctually and through occasional defaults in meeting the instalments of principal, the primary land mortgage banks have not been able to show any profits and have been able to balance the deficits in running expenses over returns by way of interest only through Government subventions.³

RURAL INDEBTEDNESS

No efforts at meeting at cheap rates the credit needs of the farmer can succeed until he is enabled to start on a clean slate. At the same time any such efforts must also ensure that the farmer does not sink once again into the position more or less of an

¹ *Annual Report on the Working of Co-operative Societies in the Province of Bombay, 1939-40*, p. 35

² *A Review of the Co-operative Movement in India, 1939-40*, Reserve Bank of India, p. 38

³ *Annual Report on the Working of Co-operative Societies in the Province of Bombay, 1940-1*, pp. 24-6

RURAL DEBT

Region	Scope of investigation	Year of inquiry	Total indebtedness	Indebtedness per cultivator's family	Indebtedness per indebted cultivator's family	Percentage of families free from debt
			Rs	Rs	Rs	
Matar taluka of Kaira ¹		1928	8 lakhs			
Matar taluka of Kaira ²	465 families examined	1931	10 lakhs	763	821	7 0
Matar taluka of Kaira ³		1933	34 lakhs			
Mahmedabad taluka of Kaira ⁴		1933	41 lakhs			
Borsad taluka of Kaira ⁵	228 families from 37 villages examined	1937	24 lakhs	848	1,068	21 5
Baroda district ⁶		1926		460		40 0
North Gujarat ⁷	774 farmers examined from 11 villages	1930	2 lakhs	246	342	28 0

¹ Report of the Bombay Banking Inquiry Committee, Vol VI, p 433

² Kumarappa, J. C., Survey of Matar Taluka, pp 97 and 111

³ Report of Special Inquiry into the Current Revision Settlements of Matar and Mahmedabad Talukas, pp 12 and 25

⁴ Patel, A. D., Indian Agricultural Economics, pp 233 5

⁵ Report of the Baroda Land Mortgage Banking Inquiry Committee (1926) pp 14 and 16. Subsequent investigations into the economic conditions in different parts of the State in 1912 and 1918 19 showed little change in the position of farmers regarding indebtedness

⁶ Report on an Investigation into Finance and Marketing of Cultivators' Cotton in North Gujarat, Indian Central Cotton Committee, p. 3.

RURAL DEBT—(CONT.)

Region	Scope of investigation	Year of inquiry	Total indebtedness Rs	Indebtedness per cultivator's family Rs	Indebtedness per indebted cultivator's family Rs	Percentage of families free from debt
North Gujarat ¹		1930	750 lakhs	340		21 0
A village north of Narbada ¹		1930				6 2
A village south of Narbada ¹		1930				17 0
Ankleswar taluka of Broach ²		1930	71 lakhs			
Broach district ²		1930	900 lakhs			
Coastal tract of Broach ¹		1930		152		12 5
Inland tract of Broach ¹		1930		80		27 5
Middle Gujarat ²	1,155 farmers approached in 23 villages	1930	2½ lakhs	201	244	15 0

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, pp 42, 44 and 46. The Committee ordered detailed inquiries into the debts of farmers of two representative villages, one in North Gujarat and the other in South Gujarat. On the basis of figures of average amounts of debts for these villages, a rough estimate of the total indebtedness of the farmers of British Gujarat was attempted. The total rural indebtedness of the region accordingly came to Rs 11 75 crores.

² *Report of the Bombay Banking Inquiry Committee*, Vol III, pp 274 and 339.

³ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p 10. Out of 23 villages covered by the investigation in Middle Gujarat 4 were in the Panch Mahals. Of the remaining 19 villages in the Kanan tract, eleven were from Broach district and eight in Boroda territory. In 1926 7 there were respectively 57,536, 34,718 and 42,765 owner cultivators in the Ahmedabad, Panch Mahals and Broach districts (see *Annual Report on Land Revenue Administration, Bombay Province*, 1926 7, pp 96-7), and according to the average indebtedness of Rs 246 for the first and Rs 201 for the two latter districts, the total indebtedness for such farmers alone of the three divisions came to approximately Rs 69½ lakhs, Rs 69½ lakhs and Rs 86 lakhs respectively.

RURAL DEBT—(CONT.)

Region	Scope of investigation	Year of inquiry	Total indebtedness Rs	Indebtedness per cultivator's family Rs	Indebtedness per indebted cultivator's family Rs	Percentage of families free from debt
A village of Mandvi taluka ¹	All the 114 families in the village were examined	1934	20,022	191	286	21 0
A village in Bulsar taluka ²	Whole village of 450 families examined	1930	1 lakh	211	291	27 0
Three villages in Surat ³		1928		1,000		
Olpad taluka ⁴	793 families examined	1937	4½ lakhs	581	763	22 8
Bardoli and Valod in Surat ⁵		1930	100 lakhs			
Chorasi taluka of Surat ⁶		1930	55 lakhs			

¹ Mehta, B. H., "Economic Life of an Aboriginal Tribe of Gujarat", *Journal of the University of Bombay*, Vol. II, Part IV, January 1934, p. 357

² Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, pp. 248-9. It should be added that of the families whom were found to be free from debt, as many as 75 per cent had either little landed property or were landless labourers whom nobody would lend. When these factors are taken into consideration it will be clear that the number of families not in debt is negligible.

³ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, pp. 18, 47 and 144. The inquiry relating to the three villages in Surat also revealed that indebtedness rose by over 50 per cent during 1915-28.

⁴ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp. 212, 213 and 218. It was also noted that while the average indebtedness per family in villages essentially inhabited by farmers of upper classes was Rs. 934, similar figures for villages mostly of Koli and such other backward classes of farmers was Rs. 563, probably because the former class command better credit than the latter. As the backward classes of farmers are largely found on the coast, these figures also show that the inland tract of the taluka is more heavily indebted than the coastal tract, a finding quite reverse to the conclusions reached by the Bombay Provincial Banking Inquiry Committee (see *Report*, Vol. I, p. 44).

RURAL DEBT—(CONT.)

Region	Scope of investigation	Year of inquiry	Total indebtedness Rs	Indebtedness per cultivator's family Rs	Indebtedness per indebted cultivator's family Rs	Percentage of families free from debt
Pardi ¹		1930	50 lakhs			
Navsari district of Baroda ²		1901		469		
South Gujarat ³		1930	425 lakhs	551		23 0

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol III, pp 18 47 and 144 The inquiry relating to the three villages in Surat also revealed that indebtedness rose by over 50 per cent during 1913 28

² *Report of the Baroda Land Mortgage Banking Inquiry Committee* (1926), pp 14 and 16 Subsequent investigations into the economic conditions in different parts of the State in 1912 and 1918 19 showed little change in the position of farmers regarding indebtedness

³ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, pp 42, 44 and 46 The Committee ordered detailed inquiries into the debts of farmers of two representative villages, one in North Gujarat and the other in South Gujarat On the basis of figures of average amounts of debts for these villages rough estimate of the total indebtedness of the farmers of British Gujarat was attempted The total rural indebtedness of the region accordingly came to Rs 11 75 crores

insolvent borrower We must, therefore, study the extent and causes of indebtedness in detail

§1. Estimate of Indebtedness. No correct estimates of the indebtedness of the farmers based on comprehensive inquiries both for India as a whole and its components have been made A comprehensive investigation for the purpose would prove a stupendous task It will necessitate a house-to-house and hamlet-to-hamlet inquiry in every village requiring an elaborate machinery and will involve heavy expenditure It can thus be undertaken under official auspices alone We shall, however, be able to obtain a rough idea about its magnitude in Gujarat from the data collected during some of the official and semi-official inquiries and the regional studies undertaken from time to time (see pp 193-6)

During the writer's inquiry all over Gujarat it was found that out of 178 selected representative farmers examined, as many as 80 or about 45 per cent were in debt, the average burdens per indebted farmer and per cultivator examined came to nearly Rs 1,428 and Rs 642 respectively In 1942-3, the year nearest to 1938-9, there were 3,62,306 owner-cultivators in the five districts of British Gujarat and if we take Rs 642 as the average amount of debt per farmer, the total indebtedness of the agriculturists of the region would amount to about Rs 21½ crores which does not appear to be an unduly over-estimate in view of the severe depression of 1929-30 and another setback the farmers experienced in 1936-7 This amount does not include the estimate of indebtedness of purely tenant cultivators, non-land-owning artisans and landless agricultural labourers who are in fairly good numbers

§2 Indebtedness, Cultivated Area and Land Revenue It will be interesting to study indebtedness in relation to the area cultivated and land revenue paid The statement on p 198 summarizes the results of some of the investigations and surveys about the relationship that indebtedness bears to cultivated area and land revenue

The 178 farmers about whom the writer gathered information cultivated 5,525 acres of land Thus indebtedness per acre of cultivated land in their case came to Rs 20 6 Land revenue paid by them amounted to nearly Rs 16,355 and with total indebtedness of Rs 1,14,193 the ratio of the latter to the

Region	Year	Indebtedness per acre of cultivated area	Indebtedness as multiple of assessment
		Ra	
A village in Ahmedabad ¹	1930	86 2	20 5
A village in Mandvi taluka of Surat ²	1934	16 6	12 5
Matar taluka of Kaira ³	1931	54 to 108	
Olpad taluka of Surat ⁴	1937	66 0	
Coastal tract of Broach ⁵	1930	49 0	18 7
Inland tract of Broach ⁵	1930	29 0	7 2
North Gujarat ⁶	1930	20 0	13 0
Middle Gujarat ⁶	1930	19 0	9 8
South Gujarat ⁶	1930	52 0	15 0
Baroda State ⁷	1942		8 0

former came to 7 1. On the basis of the data collected during the course of the inquiry, the estimate of the total indebtedness of the farmers of Gujarat as noted earlier, comes to Rs 21½ crores while the total Government land revenue demand for the five districts on fully assessed area including that on alienated lands came to Rs 68,31,132 in 1936-7,⁸ bringing the ratio of the former to the latter roughly to 31 1.

§3 Secured and Unsecured Debts Valuable data have been

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol III, p 420

² Mehta, B H, "Economic Life of an Aboriginal Tribe of Gujarat," *Journal of the University of Bombay*, Vol II, Part IV, January 1934, p 357

³ Kumarappa, J C, *Survey of Matar Taluka*, p 111

⁴ Shukla, J B, *Life and Labour in a South Gujarat Taluka*, p 216. Indebtedness per acre of owned land was Rs 67. The lower average figure for cultivated land is accounted for by the fact that the farmers follow the practice of adding to the area of owned land other fields by hiring on tenancy to make the small holding in ownership large in cultivation.

⁵ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, pp 42 and 44

⁶ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p 10. Indebtedness per acre here relates to area under cotton alone.

⁷ Gowda, S L, *Economic and Political Life in Baroda State*, p 70.

⁸ *Agricultural Statistics of India*, 1936-7, Vol I, pp 300-02

obtained during investigations about the secured and unsecured debts of the farmers. It has been ascertained that in North and South Gujarat only 29 and 27.7 per cent of the total debts respectively were secured, thus indicating the preponderance of unsecured advances.¹ It was found during the survey of a south Gujarat village that only 11.3 per cent of the total debts were covered by security of land. Here again, ordinary mortgages were important and possessory and conditional sale mortgages occupied second and third places respectively.² More or less similar results were attained during a taluka survey in Surat where only 29.5 per cent of the farmers' debts were secured mostly against lands (for 24.92 per cent out of 29.53 per cent of debts they served as security). The reason for this is partly to be found in the fact that small debts ranging from Rs 100 to Rs 500 contracted by farmers with limited means are unsecured.³ A study of the indebtedness of farmers in the Petlad taluka showed that out of the total debts of Rs 73,046 of 254 families out of 356 families examined only Rs 18,466 or a little over 25 per cent were borrowed against land, houses and ornaments.⁴ In our inquiry, out of the total indebtedness of Rs 1,14,193 of 80 farmers out of 178 examined, an amount of only Rs 11,850 or 10.3 per cent of the total were secured, mostly against the mortgage of lands. From observations during the course of the inquiry it may be stated that while in the case of backward and poor farmers the lenders insisted on tangible security of land or immovable property, no such condition was insisted upon while making advances to farmers of upper classes.

§4 Credit Standing and Indebtedness. One important fact to be noted about indebtedness is that in view of the status and connexions commanded and lands owned the farmers of upper classes who enjoy comparatively better credit with most of the agencies supplying rural finance are much more heavily in debt than the farmers of the backward and Kaliparaj castes who possess little land and hire some more on tenancy or work as landless labourers for the greater part of the year. The landless labourers are without any tangible security which they can offer as cover and hence lack financial accommodation. In the course of the

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, p 5

² Mukhtyar, G C, *Life and Labour in a South Gujarat Village*, p 250.

³ Shukla, J. B, *Life and Labour in a South Gujarat Taluka*, p 229

⁴ Mehta, J M, *A Study of the Rural Economy of Gujarat*, p 66

survey of the Olpad taluka, for instance, it was found that out of the 19 Kanbi families studied in a village as many as 11 were indebted to the extent of more than Rs 1,000 each. In another village the debt of 15 indebted Rajput families aggregated to Rs 28,000 while in a third village 10 Parsi families had a total debt of Rs 21,000. Instances of families of the Kanbi, Brahmin and Rajput farmers with indebtedness ranging from Rs 5,000 to Rs 12,000 were not few. On the other hand, indebtedness of the Koli farmers ranged from Rs 373 to Rs 841.¹ The study of Borsad taluka, too, showed that debt follows credit. It was noted that the Patidars who own substantial areas of lands are indebted heavily while the Dharalas who have small pieces of lands and mostly cultivate others' lands on tenancy have comparatively small debts. The Dheds cultivators have no lands of their own and command no credit. While the Dharalas, Dheds and such other backward castes are starved of credit in view of their failure to command credit with the financing agencies, the borrowings of the Patidars are dictated by availability rather than by necessity.² The writer's own inquiry showed that while the debt of a Bhil, Koli, Dharala or Baraiya, Chodhra, Dhodia or Naika farmer ranged from Rs 200 to Rs 500, in the case of Anavils, Kanbis, Patidars and Rajputs, the indebtedness of a farmer ranged from Rs 1,000 to Rs 3,000 and not rarely reached as high as Rs 8,000 to Rs 10,000. The high level of indebtedness among the upper classes was due mainly to the larger areas of land owned by them which made them more credit-worthy.³ Several Bhil farmers stated during the course of the writer's inquiry that as the lands they held were on restricted tenure the money-lenders were reluctant to lend them. The talukdars and other landlords are themselves impoverished and are not in a position to finance their tenants.

§5 Ancestral Debts. An analysis of rural indebtedness by causes would make an interesting study. Although an exact estimate is not possible, an appreciable portion of the farmers' debts is no doubt ancestral and has come to be inherited from generation to generation. On account of the inability to repay

¹ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp. 213-14.

² Patel, A. D., *Indian Agricultural Economics*, p. 236. Also see Mehta, B. H., "Economic Life of the Aboriginal Tribe of Gujarat", *Journal of the University of Bombay*, Vol. II, Part IV, January 1934, p. 358.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 250.

during lifetime, the farmer, on his death, passes on the burden in most cases along with the piled up interest on the principal to his son. Illiterate and wedded to the old and time-honoured practices and conventions as the farmers are, they consider clearing of the debts of their forefathers as a solemn duty and honour and strive all the life to meet them. They are unwilling to evoke the aid of protective legislation according to which they are required to take over ancestral debts proportionate to the value of the property inherited. Since the majority of farmers do not have enough income from their calling for expenses on cultivation and living, they are forced to add to their debts to meet the expenses on maintenance and other social occasions, the latter of which, though wasteful, are unavoidable if the farmers are to retain social ties. Having failed in the unequal struggle to get rid of the dead weight of debts, they pass them on with some additions to their children.

§6 **Employment of Borrowings.** The most undesirable feature of indebtedness is the fact that most of the debts of the farmers were contracted and are being incurred for unproductive purposes. The results of inquiries into the agricultural conditions in two villages in the Broach district at the instance of the Bombay Banking Inquiry Committee revealed that while agricultural expenses accounted for only 21.3 per cent of total indebtedness, disbursements on marriages and other ceremonies and construction and repairs of houses accounted for about 19 and 14.4 per cent respectively. Famine and other distresses and total or partial failure of crops together are responsible for considerable borrowings by farmers and about 29.6 per cent of the debts were contracted for this purpose. Payment of ancestral debts and the purchase of land accounted respectively for 10.0 and 2.9 per cent of total debts¹. It can thus be said that except for only 21.3 per cent of the indebtedness incurred to meet the financial needs connected with agriculture, the remaining 78.7 per cent of the debts contracted were for unfruitful purposes. Many regional surveys have led to the same conclusion. A survey of the indebtedness of the farmers of a village in Petlad taluka of Baroda, about which reference has already been made earlier, brought out that the bulk of the funds borrowed was absorbed by expenses on social ceremonies and meeting household

¹ *Report of the Bombay Provincial Banking Inquiry Committee, Vol. I, p. 4*

expenditure The percentages under the two heads of total financial commitments came to 37 and 19 respectively¹ One of the two taluka surveys in Kaira showed that borrowings for social and domestic expenses occupy a very important place Litigation was also a contributory cause to the peasants' debts² The other taluka survey in the district indicated that only about 35 per cent of the debts incurred were for productive purposes and of the 65 per cent of the rest of the borrowings, expenditure on marriages, obseques and building houses were very important, absorbing about 56 per cent of the total debts contracted³ During the course of the study of the life and labour in a taluka in Surat it was found that 76 per cent of the total debts were for unproductive purposes of which social ceremonies alone accounted for 30 per cent while the remaining heads of expenditure were redemption of ancestral and old debts, purchase and repair of houses and domestic purchases⁴ During investigation of the conditions of farmers of a south Gujarat village it was noted that the two most important causes of indebtedness were the social ceremonies and the fluctuating yields⁵

Investment of borrowed funds by farmers in the purchase of land during the boom that accompanied the World War I and which continued for some time after the termination of hostilities brought heavy financial losses to the cultivators when the land values fell precipitously during the slump that followed⁶ The scramble for land purchases by farmers was also one of the features of the last war which we shall study later on

§7 Land Revenue Payment and Indebtedness. Conflicting opinions have been expressed about land revenue demand serving as one of the causes of rural indebtedness The special Committee appointed to go into the second revision surveys of the Bardoli and Chorasī talukas opined that they found nothing or little to support the theory that Government demand has been one of the important causes of the farmers' indebtedness They cited instances of two holdings and showed that in one case where the unit of cultivation was $17\frac{1}{2}$ acres land revenue formed only 10 per cent of the cost of production and about 20 per cent of the

¹ Mehta, J M, *A Study of the Rural Economy of Gujarat*, pp 66-7

² Kumarappa, J C, *Survey of Matar Taluka*, pp 112 and 116

³ Patel, A D, *Indian Agricultural Economics*, pp 238-9

⁴ Shukla, J B, *Life and Labour in a South Gujarat Taluka*, pp 231-3

⁵ Mukhtyar, G C, *Life and Labour in a South Gujarat Village*, p 251

⁶ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. I, p. 48

alleged loss to the farmer in cultivation, while in the other case the assessment was a little more than 10 per cent of the estimated cost of production and slightly over half of the alleged loss in farming and averred that 'assuming for the sake of argument that agriculture is bankrupt, it would be bankrupt just the same if the assessment was not levied' ¹ More or less similar results were noted in a taluka survey in Gujarat where land revenue payment accounted for only 0.35 per cent of the debts contracted ² A third investigation stated that as land revenue hardly amounts to 8 per cent of the gross out-turn, it can no longer be maintained that Government demand by itself is a cause of indebtedness ³ The same author, however, found during the inquiry into a village in *Charotar* that about 6 per cent of the total debts of the farmers were incurred to pay land revenue ⁴ During the course of discussion of land revenue it has been brought out how heavily assessment weighs on the farmer Even from the verdict of the official Committee it will be clear that although land revenue payment as a percentage of total cost of cultivation may be small, its proportion to the annual losses in agriculture are appreciable A rural survey of a taluka in Kaira indicated that payment of land revenue was the third important cause of indebtedness next only to agricultural and domestic expenses It would be interesting to note the observation that a far larger number of families borrowed to pay land revenue than for social ceremonies ⁵ Farmers have to borrow to pay land revenue partly because of the inconvenient dates fixed by the Government for its collection which in many cases are due before the farmers have sold their produce and realized enough cash The *sahukars* who provide finance to the poor farmers charge heavy rates of interest on short period loans The farmers are left with the unenviable choice of disposing of their produce at unfavourable prices or to borrow from money-lenders at exorbitant rates of two to four annas per rupee against standing crops at times ⁶

¹ *Report on the Special Inquiry into the Second Revision Survey of Bardoli and Chorasi Talukas* (1929), p. 66

² Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 231

³ Mehta, J. M., *A Study of the Rural Economy of Gujarat*, p. 73

⁴ *ibid.*, p. 67

⁵ Kumarappa, J. C., *Survey of Matar Taluka*, pp. 112-13. Also see Mehta, B. H., "Economic Life of the Aboriginal Tribe of Gujarat", *Journal of the University of Bombay*, Vol. II, Part IV, January 1934, p. 362

⁶ *Report of the Bombay Banking Inquiry Committee*, Vol. III, pp. 169 and 425. Also Kumarappa, J. C., *Survey of Matar Taluka*, p. 81.

§8 **Indebtedness and Deficit Rural Economy.** The primary cause at the root of rural indebtedness has been the fact that the returns from land are not sufficient to cover the expenditure on farming and other domestic requirements of the farmer, primarily because the bulk of the farmers in Gujarat have holdings much below the economic size. During our study of land holdings in Gujarat we showed that for dry crops, which are the predominant type of cultivation in Gujarat, the size of holding necessary to ensure the cultivator a reasonably decent standard of life is from 20 to 25 acres and also noted, on the other hand, that approximately 91 per cent of the farmers of British Gujarat command holdings of 15 acres and below. Lands available to the bulk of the farmers for cultivation are limited and even during fairly good seasons, they do not earn enough to pay interest on debts and current expenses and other social expenditure, good or bad, which they have to defray at short intervals¹. It is the deficit economy in agriculture more than anything else that is responsible for rural indebtedness. It has been found that with almost the same tendencies to incur heavy expenditure on unproductive purposes the Koli population of Bulsar taluka employed in salt works and other occupations was prosperous as against that section of the farming community which is in desperate condition, indicating that it is the unpaying nature of agriculture more than extravagant social expenses and intemperance that is at the root of the evil². The results obtained during recent surveys make this clearer. A village study in South Gujarat revealed that in the case of 29 per cent of the indebted families, the debts exceeded their annual income and even with the remaining 71 per cent, though indebtedness was less than annual income, these families were so situated that on the advent of an adverse season they would find themselves in a helpless condition³. The survey of Borsad taluka revealed the unhappy tale of the farmers earning below bare subsistence. As many as 57 per cent of the farmers studied had returns from farming short of their requirements of daily life⁴. The writer's study showed that out of 178 farmers studied as many as 115 or 65 per cent had deficit budgets. A scheme of

¹ *Report of the Bombay Banking Inquiry Committee*, Vol III, p 22

² *Revenue Survey Settlement, Bulsar Taluka*, p 71

³ Mukhtyar, G C, *Life and Labour in a South Gujarat Village*, pp 236, 237 and 249

⁴ Patel, A D, *Indian Agricultural Economics*, p 255

debt redemption undertaken by a co-operative society in respect of two villages of Pardi taluka in Surat failed to keep the farmers free from indebtedness for long. Very soon after the debts had been wiped off, the farmers started borrowing from the *sahukars*. The scheme failed partly because the peasants concealed a part of their debts out of a false sense of prestige and partly because the period of loans, instead of being long enough, say thirty years, was restricted to ten years as a result of which the cultivators could not repay the instalments regularly but largely because of the inherently unsound nature of the farmer's economy.¹ The writing off of debts at a stroke, therefore, would not be helpful as after a short period the evil will confront the agriculturists again. The right course is that debt redemption should be accompanied by scaling down of debts beyond the farmer's capacity to pay and by efforts to provide each farmer with a holding reaching as far as possible the standard size and to offer him subsidiary occupations and cottage crafts which would bring sufficient income to him to make up for whatever deficiency there may be in his returns from land. Alternative financing agency in the form of a well developed co-operative credit movement will also be necessary to finance the cultivators and thus prevent them from going to the *sahukars* again for accommodation.

Our discussion of rural finance in Gujarat has shown that the co-operative societies, the taccavi and the land mortgage banks play an insignificant part in meeting the credit requirements of the peasantry. The money-lender thus holds a dominant position in the field. Before any suitable alternative credit agency is devised, the problem of rural indebtedness will have to be tackled. The peasantry is deep in debt most of which had been incurred for unproductive purposes. There is, therefore, an urgent need to scale them down so as to bring them within the paying capacity of the farmers.² At the same time, efforts should be undertaken to make farming profitable and thus prevent the reappearance of this undesirable state of affairs.

¹ *Report of the Bombay Banking Inquiry Committee*, Vol. III, pp. 74 and 76.

² The Agricultural Finance Sub-committee of the Policy Committee on Agriculture, Forestry and Fisheries recommended that rural debts should be scaled down to the repaying capacity of the peasantry within two years and suggested that in addition to the rapid expansion of the co-operative credit movement, a state agency should be created to advance money to the agriculturists for repaying the adjusted debts and to provide all types of agricultural finance. For details see *Report*, pp. 25-30 and 36-40.

CHAPTER VIII

COTTAGE AND SUBSIDIARY INDUSTRIES

THE bulk of the holdings of the agriculturists in Gujarat are tiny and uneconomic and the methods of cultivation followed by them are extensive. A very large proportion of cultivated land is such that it is possible to raise only one crop on it annually. All these combined reduce the period of employment of the farmer considerably and leave him without work for a considerable part of the year.

During the course of our inquiry it was found that the period of employment for a farmer and his family varied from four to eleven months in different regions of Gujarat. In the dry crop region producing mainly cotton and one or more of the major cereals of wheat, *jowar*, *bajri* and maize, the period of employment varied from four to six months depending upon the size of the holding and the care and attention bestowed by the farmer on his calling. In the Kaira district comprising the *Charotar* tract the farmer is occupied from nine to ten months mainly on account of the irrigated cultivation of tobacco, and fruits and vegetables to some extent. In the southern sub-divisions of Surat where farmers combine a little cultivation of dry crops with that of paddy and garden produce the latter of which are by far the most important, the period of employment extends from ten to eleven months in the year. It should be said that the periods of employment and leisure do not run at a stretch, but the period of his work in the fields is broken by days of leisure. Thus although a farmer who appears busy for most part of the year would have much spare time now and then.¹ In the absence of suitable subsidiary occupations to keep him busy, the farmer idles away his spare time in quarrels, litigation and empty gossip. If, therefore, he is provided with occupations during workless days, he will be gainfully busy. Care should be taken, at the same time, to provide such occupations as would not wean away the attention of the farmer from his main pursuit and take up too much of his time. Besides, it should be remembered that

¹ *Report of the Bombay Provincial Banking Inquiry Committee, Vol III,*
p. 85

improvement of agriculture and thus increasing returns to the cultivator from it should be the main aim and the efforts towards providing subsidiary occupations to him should in no way become the principal objective receding farming to a place of secondary importance.¹

COTTAGE INDUSTRIES

There are today a good many spare-time occupations in the villages some of which are common to all the districts while others are found in some only. The following occupations are pursued by the rural population in the various districts mentioned against them ²

District	Industries
Ahmedabad	Rice-pounding and husking, flour grinding, hand-spinning, hand-weaving, carpentry, smithy, masonry, tanning, manufacture of <i>dal</i> , making rat-traps, knitting, making of toys of wood and clay, preparation of dry ginger and dry turmeric, making toys and baskets of pulp from waste paper, preparing <i>gulabjal</i> and <i>gulkand</i> , lac and lacquer work, cane work, carving on wood and metal, soap making and collection of gum and <i>tulsi</i> beads making
Broach . .	Rice-pounding and husking, flour grinding, hand-spinning, hand-weaving, rope making, carpentry, coal burning, collecting <i>khakhra</i> leaves for preparing <i>ba</i> , collecting <i>bidi</i> leaves, making wire cages, knitting, toy making, <i>chunam</i> burning, preparation of dry ginger; preparation of <i>gulabjal</i> and <i>gulkand</i> , lac and lacquer work, collecting honey, soap making and wood carving.

¹ Report of the Royal Commission on Agriculture in India, Vol II, Part II, p 131.

² Report of the Bombay Economic and Industrial Survey Committee, 1938-40, Vol I, pp 69, 75, 82, 202 and 203, and Vol II, Ahmedabad, p. 21, Kara, pp 14-15, Surat, pp 13, 15 and 20, Report of the Bombay Banking Inquiry Committee, Vol II, pp 201-4 and Vol III, pp 19, 80 and 225 and Report of the Royal Commission on Agriculture in India, Vol II, Part II, pp 186-7, Kumarappa, J. C, Survey of Matar Taluka, pp 60-1.

District	Industries
Kaira .	Rice-pounding and husking , flour grinding ; hand-spinning , hand-weaving , carpentry ; smithy , masonry , tanning , manufacture of <i>dal</i> , making wire cages for rats , etc , knitting , making toys , bamboo-basket making , <i>chunam</i> burning , drying <i>rayan</i> ; soap making , cloth buttons and <i>patarala</i> making
Panch Mahals ..	Rice-pounding and husking , flour grinding ; hand spinning , hand-weaving , rope making , bamboo-basket making , collecting <i>khakhra</i> leaves , collecting <i>bidī</i> leaves , knitting , toy making , brick and tile making , <i>chunam</i> burning , paper pulp making , collecting tanning materials, viz bark of trees , lac and lacquer work ; soap making and snuff making
Surat ..	Rice-pounding and husking , flour grinding , hand-spinning , hand-weaving , <i>navar</i> weaving , carpentry , tanning , pottery , rope , bamboo-basket and mat making , bed-tape weaving , blanket weaving by shepherds and agriculturist weavers , <i>bag</i> making , <i>tur dal</i> cleaning , knitting and embroidery , brick and tile making , coal burning , preparation of dry ginger and turmeric , collecting <i>randeri bor</i> , <i>jambu</i> , <i>falsa</i> and <i>karamda</i> , preparation of paper pulp from waste paper for basket-making , preparation of <i>gulabjal</i> and <i>gulkand</i> , lac and lacquer work , toy making , collecting gum and honey , collecting <i>asindra</i> leaves for making <i>bidīs</i> , <i>ghrunghadi</i> making from bamboo and <i>khakhra</i> leaves and banyan tree roots to serve as laces , snuff making , cloth button making , nursing the young tobacco plants and other vegetables for sale by females ; broom sticks, laces and

District	Industries
Surat	mat-making from stems and leaves of <i>khajuri</i> trees; toddy drawing and preparation of <i>papad</i> , <i>sev</i> , pickles and jellies.

Some of the cottage industries like carpentry, smithy, masonry, tanning, etc., are exclusively carried on by village artisans and although the craftsmen undertake a little farming along with them, the crafts constitute their main calling. These vocations are not undertaken by the farmers as subsidiary to agriculture. The village artisans mainly serve the rural population. In regard to tanning, the Khals and Chamars purchase raw skins from butchers in the nearby towns and cities and after proper finish resell them to the farmers and local cobblers. They also undertake to tan the hide of the dead animals of the farmers for a small charge. Lime, salt and *babool* bark are the important tanning materials they require, the last of which they obtain for cash or against some service in kind when *babool* trees are cut either by farmers themselves or by merchants who purchase them for trade in wood. Further, industries like knitting, embroidery, *baj* making, cloth buttons and snuff making, nursing of young vegetables and tobacco plants, cleaning *tur dal*, etc., are commonly pursued by the females of the household of farmers of the upper classes and the little income derived in this way is utilized in meeting their personal needs. Industries like rope making and preparation of laces and other accessories needed for animals, carts, ploughs and other agricultural implements are undertaken by almost all the farmers but only to the extent of meeting their individual requirements. Similarly, *papad*, *sev*, pickles and jellies are prepared by the women of the higher castes for use in the home. Rice-pounding and husking and flour-grinding are also usually followed by the females of some of the agriculturists only to the extent of the needs of the house and are not undertaken with a view to sale. The backward classes of the population in the villages, however, undertake pounding and husking of rice and flour-grinding for the farmers of the upper classes and make a little income in this way. The Kols and other backward classes of farmers in the Surat district obtain licences for toddy booths or for tapping a few *khajuri* trees and make substantial additions to their incomes through the sale of toddy. Farmers all over Gujarat also follow carting as a subsidiary occupation which is

of special significance as it occupies the spare time of both the cultivator as well as his bullocks. Some of the farmers and their family members work as labourers in the villages and near by towns and for local public bodies in their constructional work of roads and buildings.¹ All the remaining cottage industries are undertaken by the backward classes like Dublas, Dhodias, Naikas, Dheds, Bhils, Dharalas, Gamits, Chodharas, Kolis, Thakardas, etc., who are either landless or possess very little land and depend partly or wholly on the occupations for livelihood.

§1. **Cost and Realizations from Cottage Industries** It is not possible to state the extent to which the various cottage industries contribute to the income of the artisan. In regard to spinning and weaving, however, it has been estimated that as a side occupation it would bring about Rs 30 per year to a family of five members. If a farmer works an hour a day, he will be able to produce enough to clothe himself.² Another estimate puts down that the occupation followed off season would bring an income of Rs 20 to Rs 25 annually per spindle. Spinning and weaving as the sole occupation is not very lucrative as the average earning of a spinner per week would amount to only from eight to ten annas.³ It does not involve heavy expenditure on the purchase of tools and raw materials. The establishment for spinning and weaving would cost about Rs 30 to Rs 40 only.⁴ Similar data for other cottage industries are difficult to collect. It may be stated in general that the expenses on raw materials needed for these crafts are small and the labour of the craftsman, except in few industries, plays an important part. During our inquiry it was found that the expenses on the materials required for the crafts varied with different occupations as indicated on p 211.

A few more instances would show the varying costs on equipment and the varying incomes from different industries. In the manufacture of *tulsi* beads in Ahmedabad, wood is the raw material used and the cost on it amounts to a little less than 28 per cent of the gross proceeds realized from the sale of the

¹ Report of the Royal Commission on Agriculture in India, Vol. II, Part I, p 16 (viii)

² *ibid*, p 538.

³ Mohta, J M, *A Study of the Rural Economy of Gujarat*, p 121

⁴ Report of the Royal Commission on Agriculture in India, Vol. II, Part I,

Class of artisan	Annual average gross realization	Average annual expenditure on the purchase of materials for craft	Items of expenditure	Percentage of (3) to (2)
(1)	(2)	(3)	(4)	(5)
	Rs a p	Rs a p		
Blacksmiths	472 8 0	87 8 0	Charcoal, tools and labour	19
Carpenters	137 0 0	25 12 0	Tools	18
Tailors	150 0 0	35 8 0	Thread, needles, oil and machine spare parts	24
Cobblers	490 0 0	346 8 0	Leather, nails, oil, thread, tools and machine spare parts	88
Tanners	120 0 0	30 0 0	Salt, babool bark and lime	25 ¹
Potters	180 0 0	45 0 0	Various types of earth, dung, straw, fuel shellac, kachla, kerosene, sweet oil, tools and transport charges	25

product. The artisans engaged in this industry earn about Rs 70 to Rs 100 a year. As the industry is followed subsidiary to agriculture it will be clear that the income from this source makes material addition to low returns from agriculture ². In regard to the preparation of bamboo baskets and mats by a farmer in Kaira as subsidiary to agriculture, the cost of raw material amounts to a little over 8 per cent of the total gross proceeds and his net annual income comes to Rs 80 approximately. Investigation shows that an agricultural labourer earned about Rs 31 per annum from the same occupations while another with a big family earned Rs 110 ³. The raw material needed to make cloth buttons is thread and its cost amounts to less than 6 per cent of the realizations from finished products ⁴. An artisan in this industry by putting in eight hours' work a day

¹ When the tanners purchase raw skins the cost of materials amounts to round about 50 per cent.

² *Report of the Bombay Economic and Industrial Survey Committee*, Vol II, Ahmedabad, p 21.

³ *ibid*, Kaira, p 14.

⁴ *ibid*, Surat, p 14.

earns about Rs 5 to Rs 6 per month¹ In regard to *baj* making the cost of *khakhar* leaves which is the raw material needed came to 30 per cent of the realization and the annual income from the source came to Rs 20—a substantial addition to the income of Rs 100 from agriculture of the farmer who pursued this subsidiary vocation² In preparing broom sticks and laces from the stems and leaves of *khajuri* trees and cleaning *tur dal*, grinding flour and pounding and husking rice, no expenditure on purchases of the raw materials is involved A woman of the family of a Dhodia farmer in Chikhli taluka of Surat employed in mat-making from *khajuri* leaves in spare hours prepared 36 mats annually and earned Re 1-11 by selling a mat at 9 pies each Similarly, two females from the house of another Dhodia farmer in the same area made 180 mats per year and earned Rs 8-7 by selling at the same rates *Khajuri* leaves required for the purpose were collected from trees nearby and thus no expenditure on raw material was involved Rope and lace-making by farmers also does not cost anything in the paddy growing area in Surat as the small quantity of *shun* or hemp required is produced on the land In certain industries like blanket-weaving comparatively higher expenditure on raw materials has to be incurred as wool has to be usually purchased from the town markets and transported home, but here again as between the raw material and labour of the artisan the latter is more important.³

§2 **Agriculturists and Cottage Industries** It would be clear from what has been said before that although village industries gainfully occupy a part of the rural population, they are in no way pursued subsidiary to agriculture Formerly, it was not so The advent of machine-made goods dealt a severe blow to the cottage industries The products of the village craftsmen could not stand in competition with the machine-made goods of fine finish and varieties The village artisan was deprived of the market for his articles by the influx of cheap goods from the factory. The spinning and weaving industry is a case in point. Forty years ago it used to be a very common spare-time occupation in Gujarat and is still in existence in Kathiawar where farmers

¹ *Report of the Bombay Economic and Industrial Survey Committee*, Vol. II, Kara, p. 14

² *ibid*, Surat, pp. 20-1.

³ *ibid*, Surat, p. 13.

are in a poor condition¹ Likewise carting pursued by the agriculturists which is an important rural occupation has been seriously affected by the development of bus transport Establishment of rice-husking, flour and oil mills created unemployment among village women and *ghan* workers But this is not the whole tale To take up spinning and weaving again, the occupation is of special significance from the point of view of meeting the household requirement of clothing We have seen how a farmer who works an hour a day on this industry can make himself self-sufficient in regard to his clothing and how, even in the midst of highly competitive economy, he can make a decent addition to his insufficient income from land One of the reasons for the undeveloped state of cottage industries, therefore, is the apathy of the farmer, especially of those belonging to the higher castes, towards cottage industries² It is true that in Surat and Kaira where irrigation farming is important, cultivators are able to spare little time to pursue the industries and as returns to the farmers in these districts are comparatively better in view of the nature of crops raised, adoption of one or more of the cottage industries would not be attractive³ In the dry crops regions however, which constitute the bulk of the area under cultivation in Gujarat, the farmers have ample leisure. For Gujarat in general and the cotton-jowar tract in particular, spinning and weaving can be an important subsidiary occupation. It can be learnt, taken up and put aside easily In spite of its manifold advantages, the craft has not become popular in Gujarat and is followed only by a few It is only in the Viramgam taluka of Ahmedabad that the women of the household of many farmers spin regularly and produce about half to one maund of coarse yarn annually which is woven into rough cloth from *vankars* for use as bed-sheets and head-dresses. When national movements are launched, people take to spinning for some time out of temporary enthusiasm, but when the spirit ebbs, conditions relapse to the original position.⁴ The need of providing spare-

¹ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part I, p. 538

² *ibid*, p. 559

³ *ibid*, p. 354

⁴ See *Report of the Bombay Banking Inquiry Committee*, Vol. III, pp. 4 and 88 and *Second Revision Survey*, Chorasi Taluka (1932), p. 18 Large number of spinning wheels in use during these years may probably be due to national enlightenment due to the *satyagraha* campaign

time occupations to the agriculturists during idleness is great. If the farmers can be induced to take to cottage industries in spare time they will be able to make welcome, although small, additions to their income.

The revival of cottage industries is highly essential to help the farmers under the decaying rural economy. For this purpose certain defects in the existing state of affairs will have to be remedied. Many of the products of cottage industries are unknown to the consumer. Besides, the manufactures of cottage industries often lack uniformity and finish. Their regular supplies are also not assured so that the consumers are always in doubt about getting them regularly. The tanning industry in the villages, for instance, is run on a very unorganized basis.¹ Both the supplies of raw skins and hides and *babool* bark, one of the important tanning materials, are uncertain. Due to their irregular supplies during busy periods of agricultural seasons the tanners abandon the occupation completely. From inquiry in the Surat district the writer could know that except for the enterprising few in whose case the number of hides and skins tanned annually came to about 100, the ordinary tanner processed on an average 20 to 30 per year. The process of tanning is also crude and unscientific. Further, the artisans dispose of their products locally by hawking. Many times they accept grains in payment for their articles as do the Kunknas who collect *karamda* and the Dheds who prepare broom sticks and ropes out of the *khajuri* stems and leaves in Surat and exchange them for paddy. The creation of simple marketing organizations for an orderly and profitable disposal of cottage products is the crying need. The standardization and the introduction of varieties to meet the tastes of consumers are also important.

The problem of the suitability of cottage industries will have to be gone into with great care with reference to the normal period of employment of the farmers, the availability of raw materials, marketing facilities, preferably local, etc., of every area. The possibility of introducing new industries should also be explored. For instance, the preparation of *papad*, *sev*, pickles and mango jellies can be expanded and made a subsidiary source of income. Today the industries are pursued in the homes of the upper

¹ Report of the Bombay Economic and Industrial Survey Committee (1938-40), Vol. I, p. 82.

classes of farmers to meet the family requirements but they can be taken up on a fairly large scale for sale. Fruit canning can very well flourish in respect of mangoes, papayas, pomegranates and guavas. Paper pulp can also be manufactured from *roydo* and *koh kaplo* varieties of grass found in abundance in Surat.

SUBSIDIARY INDUSTRIES

§1. Dairying We shall now study dairying which is the most important subsidiary occupation of farmers in Gujarat. The occupation is prevalent in most parts of the tract we are studying, but more so in Kaira, Ahmedabad and some parts of the Panch Mahals¹ than in Surat, Broach and other parts of the Panch Mahals. Especially in Kaira, Ahmedabad and parts of the Panch Mahals and Broach every farmer maintains a buffalo or two and it gives him some cash income.² The industry helps many farmers to meet losses from agriculture and sometimes brings a little profit in addition. For instance, the annual loss of Rs 105 of a farmer in a village in Surat from the cultivation of his farm of 12 acres was converted into a surplus of Rs 87-8 as a result of net profit of Rs 192-8 from the upkeep of two milch buffaloes.³ During the rural survey of Borsad taluka in Kaira it was ascertained that the cultivators derived more than 70 per cent of their subsidiary income from cattle and were thus enabled to carry on agriculture despite its unremunerative character.⁴ In the Matar taluka of the same district income from dairying stands next to that from sale of grains, the percentage of receipts from the former source to total income ranging from 16.1 to 24.3 for different groups of villages as against 41.9 to 59.4 per cent from the latter.⁵ Widows and such other persons in the rural areas without any other source of income keep a couple of buffaloes and make a living.

The Patidar farmers of Kaira, Ahmedabad, Broach and the Panch Mahals and the Kanbis, and to some extent Anavils, of Surat are the important communities connected with dairying. They maintain good and well-fed animals and have made dairying a regular subsidiary occupation. Farmers of other castes possess inferior animals yielding low returns and the sale of dairy produce

¹ *Report of the Bombay Provincial Banking Inquiry Committee, Evidence*, Vol. III, p. 80.

² *ibid.*, p. 82.

³ Mehta, J. M., *A Study of Rural Economy of Gujarat*, p. 124.

⁴ Patel, A. D., *Indian Agricultural Economics*, p. 197.

⁵ Kumarappa, J. C., *Survey of Matar Taluka*, pp. 71-2.

is not an important source of income with them. It should be added that dairying is essentially an occupation of the women of the farmer's household and the cultivators only help them in the purchase of cattle feeds and marketing of its products. Besides, although the buffalo is the important dairy animal almost all the farmers maintain a few cows in addition to ensure a regular supply of bullocks required on the farm. During the writer's inquiry it was found that most of the farmers maintain milch cattle to meet their own needs of dairy products and sales take place only when there is a surplus. Out of 178 farmers examined, it was found that although all maintained dairy animals, only 51 of them sold milk and ghee and the rest produced only for their domestic requirements. Even with these 51 farmers an appreciable proportion of the dairy product was consumed at home.

The farmers borrow funds for the purchase of milch cattle commonly from the money-lenders and well-to-do agriculturists. Generally they do not borrow money from people who purchase their milk or ghee excepting the milk dealers in towns and cities when the bulk of the milk is sold to them. The finance in Kaira is in the shape of *khandha* loans to be repaid in equal amounts at regular intervals along with interest on each instalment. The rate of interest ranges from 12 to 15 per cent.¹

(i) *Milch Cattle* The tables on pp 217-8 give the statistics of cows kept for milk or breeding in the urban and rural areas of Gujarat by districts in 1940.²

It will be apparent from the table that out of the total number of 2,53,575 cows maintained in the five districts of British Gujarat for breeding or milk production as many as 2,43,318 or a little over 95 per cent are in the rural areas indicating that breeding and dairying are essentially the occupations of the farming populace. Cow-keeping for breeding and milk production occupies a prominent place in Broach and the Panch Mahals and Ahmedabad, while in Kaira it is least important, the Surat district standing midway between the former districts and the latter area. Out of the total number of 2,43,318 cows in the villages of Gujarat maintained for these purposes, 79,964

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, pp 83-4 and Patel, A. D., *Indian Agricultural Economics*, p. 197.

² *Season and Crop Report of the Bombay Province, 1939-40*, pp. 110, 112 and 126.

COWS FOR BREEDING OR MILK PRODUCTION IN GUJARAT, 1939-40

Cows over three years old kept for breeding or milk production									
District	In milk			Dry			Not calved		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Ahmedabad ..	34,202	3,100	37,302	36,982	2,408	39,390	3,289	43	3,332
Kaira ..	7,978	696	8,674	11,862	634	12,496	1,025	126	1,151
Broach and Panch Mahals	44,179	1,188	45,367	33,282	1,227	34,509	2,503	10	2,513
Surat ..	28,623	619	29,242	33,342	118	33,460	6,051	88	6,139
Total for British Gujarat	1,14,982	5,603	1,20,585	1,15,488	4,387	1,19,855	12,868	267	13,135

COWS FOR BREEDING OR MILK PRODUCTION IN GUJARAT, 1939-40—(CONT)

District	Total		
	Rural	Urban	Total ¹
Ahmedabad	1,06,017	7,393	1,13,410
Kara	30,493	2,547	33,040
Brosch and Panch Mahals	1,31,128	3,760	1,34,888
Surat	1,07,374	1,427	1,08,801
Total for British Gujarat	3,75,012	15,127	3,90,139

¹ Figures in this column include cows maintained for breeding or milk production, those kept for work, those not in use either for breeding purposes or work and other young female stock of three years and under.

or 32.8 per cent are in Broach and the Panch Mahals, 74,473 or 30.6 per cent in Ahmedabad and 68,016 or 27.9 per cent in Surat, while for Kara the number is only 20,865 which comes to 8.7 per cent of the total. One more fact to be noted in this connexion is that of 3,90,139 the total number of cows, 2,43,318 or a little over 62 per cent are maintained for breeding or milk production. Of the remaining 1,46,821 cows kept for work and others which are useful neither for breeding and milk production nor work form an insignificant proportion¹ and the bulk of them are young stock of three years and under in age. For the purposes of our study, however, what is important is the proportion of cows maintained for breeding and milk production that are actually in milk. Out of 2,43,318 cows kept for breeding or milk production by farmers in the rural areas only 1,14,982 or a little more than 47 per cent of the total are in milk and the expenditure on the maintenance of nearly 53 per cent of the animals which are dry and those which have not calved is not fruitful. The cost of maintaining a cow when dry has been estimated at Rs 9 and Rs 24 in two rural surveys in Surat after making allowance for dung of about Re 1 which she yields during this period². We shall accept the latter estimate as the former appears to be low looking to the quantity of fodder consumed by a cow in dry seasons, the quantity of grazing needed in monsoon and the cost of looking after it all the year round. We shall also leave out of account cows kept in urban areas as they are not relevant to our study of dairying as conducted by the farmers. At the rate of Rs 24 per cow when dry or not calved the total cost of maintenance of 1,28,336 cows of which 1,15,468 are dry and 12,868 had not calved, would be approximately Rs 31 lakhs.

The figures on pp 220-1 are of buffaloes kept in the rural and urban areas of Gujarat. It is hardly necessary to say that unlike cows, buffaloes are maintained primarily for milk production and breeding is only of secondary importance.

As in the case of cow-keeping, the maintenance of buffaloes for breeding or milk production is a rural occupation. 3,66,333 out of the total of 3,89,033 buffaloes, i.e. a little over

¹ *Season and Crop Report of the Bombay Province, 1939-40*, p. 114.

² Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 164 and Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 141.

BUFFALOES FOR BREEDING OR MILK PRODUCTION IN GUJARAT, 1939-40

Buffaloes over three years old maintained for breeding or milk production									
District	In milk			Dry			Not calved		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Ahmedabad ..	70,320	5,761	76,081	30,917	1,244	32,161	4,031	43	4,074
Kaira ..	92,774	6,555	99,329	27,977	1,103	29,080	3,162	65	3,227
Brooch and Panch Mahals	53,397	3,224	56,621	18,807	1,146	19,953	1,719	84	1,803
Surat ..	39,929	3,057	42,982	19,938	200	20,138	3,366	218	3,554
Total for British Gujarat	2,56,416	18,597	2,75,013	97,639	3,693	1,01,332	12,278	410	12,688

BUFFALOES FOR BREEDING OR MILK PRODUCTION IN GUJARAT, 1939-40—(CONT.)

District	Total		
	Rural	Urban	Total ¹
Ahmedabad . . .	1,75,416	10,014	1,85,480
Kaira . . .	2,35,027	13,541	2,48,568
Broach and Panch Mahals ..	1,30,202	6,450	1,36,652
Surat	1,00,204	4,183	1,04,387
Total for British Gujarat	6,40,849	34,218	6,75,067

¹ Figures in this column include buffaloes maintained for breeding or milk production, those kept for work and those not in use either for breeding purposes, milk production or work and other young female stock of three years and under.

94 per cent of the total are owned by the farmers in the villages. It is interesting to note that of this total number 33.8 per cent are in Kaira, 28.7 per cent in Ahmedabad, 20.3 per cent in Broach and the Panch Mahals and 17.2 per cent in Surat. The keeping of buffaloes is, therefore, very important in the Kaira and Ahmedabad districts while it is fairly general in Broach and the Panch Mahals and Surat. A study of the statistics of cows and buffaloes kept would indicate that in Kaira buffaloes are the important dairy animals comprising about a third of the total number in the rural areas and the number of cows maintained is negligible. On the other hand, in Ahmedabad, Broach and the Panch Mahals and Surat both the animals are important. But the number of buffaloes in Ahmedabad considerably exceeds that of cows. As against this, in Broach and the Panch Mahals buffaloes are more by a few thousands than cows while in Surat cows are in excess of buffaloes. It will also be seen from the details given about buffaloes that of the total female population of 6,40,849 in the rural areas 3,66,333 or a little over 57 per cent are maintained for breeding or milk production. As only a small number of buffaloes is used as draught cattle and still fewer are neither in use for work nor are good for breeding purposes,¹ the bulk of the remaining 2,74,516 buffaloes are mostly young stock of three years and under. In regard to the proportion of buffaloes actually yielding milk to those maintained by the rural population for the purpose of breeding, it will be found that 2,56,416 out of 3,66,333 are actually in lactation. The proportion of the former of nearly 70 per cent to the total of buffaloes in reproductive stage is favourable as compared with the similar figure for cows which, as we noted, is little more than 47 per cent. The cost of maintaining a dry buffalo has been estimated at Rs 10 and Rs 43 a year in two of the regional surveys of Gujarat,² after making allowance for dung worth Rs 2 which is the only source of income from her when dry. Here again, the latter estimate appears to be the proper one in view of large quantities of fodder and grazing needed by a buffalo which are the only feeds given to her when she is not in milk. At the rate the cost of the maintenance of 1,09,917 or

¹ *Season and Crop Report of the Bombay Province, 1939-40*, pp 136-8

² Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p 140, and Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p 163

30 per cent of the buffaloes would amount to approximately Rs 47½ lakhs.

(ii) *Milk Yields and Production* It has been estimated that a cow and a buffalo in Gujarat yield on an average 462.9 lbs and 1,049.6 lbs of milk respectively per annum. On the other hand, the averages of the annual milk production of a cow and a buffalo for British India are 484 lbs and 1,216 lbs respectively¹. In foreign countries the cow is the most important dairy animal and its annual milk production in Switzerland, England and Wales, Denmark, Germany, Canada, Argentina and Greece is 6,498 lbs, 5,576 lbs, 7,005 lbs, 5,305 lbs, 3,195 lbs, 971 lbs and 970 lbs respectively. A buffalo of *Charator*, on the other hand, is known to yield 3,780 lbs of milk annually². The milk of the Indian cow in general and that in Gujarat in particular is very poor compared with these.

On the basis of the yields mentioned above we may say, without being very much wide of the mark, that the annual production of cows' and buffaloes' milk in the five British districts of Gujarat would be 558 lakhs lbs and 2,886½ lakhs lbs respectively, out of which the production in the rural areas would be respectively 531½ lakhs lbs or about 95 per cent and 2,691½ lakhs lbs or a little over 93 per cent of the total. In the Kaira district, which is the most important dairy tract of Gujarat, there are ninety-five milch animals per square mile producing 390 lbs of milk per day. Kaira has a human population of 457 per square mile. Denmark and Holland with 97 and 105 milch cattle respectively per square mile produce as much as twenty and twenty-five times the production of milk in Kaira. As Denmark has only 226 people per square mile, it commands a huge surplus of butter-fat for export³.

(iii) *Factors Contributing to Low Milk Yields* One of the primary causes of low milk yields of animals in Gujarat has been the inferior quality of the cattle kept by the farmers. The cultivators depend upon the village bulls and buffaloes, which are not selected with proper regard to the purity of their breed. The outcome has been that in Gujarat few breeds are in a state of purity. The animals of different areas vary considerably in

¹ Burns, Dr W, *Technological Possibilities of Agricultural Development in India*, p. 113

² Patel, A. D., *Indian Agricultural Economics*, p. 115

³ *Report on the Marketing of Milk in India and Burma* (1941), p. 125.

quality and carry the characteristics of the regions to which they belong.¹ There are some good animals like Gir and Surti buffaloes and Vadhami cows, but few of them are of a pure breed on both sides. The stock of the *rabaris* who are the professional cattle breeders, is poor, and as they are landless, depend either on the common grazing lands in the villages or on the fields of the cultivators to graze their cattle. They also move about with their herds from place to place in search of grazing facilities for their cattle. The occupation of breeding good cows for dairying and bullocks for draught in North Gujarat which is an ideal tract for the purpose is unfortunately on a decline although the number of buffaloes maintained is kept up by stall feeding.² As most of the grazing and waste lands have been brought under the plough, very little grazing lands are now available. The competition of the Sindhis who supply bullocks to the farmers has also been partly instrumental in bringing about the decay of the professional *rabari* breeder.³

Provision of breeding males is also highly unsatisfactory. Leaving aside the urban areas, there are 2,176 breeding bulls for 1,15,468 cows and 2,655 buffaloes for 3,66,333 females maintained for the purposes of breeding or milk production in Gujarat villages.⁴ Apart from the preponderance of indigenous varieties, it is apparent that the numbers of these male animals are quite inadequate in comparison with the cows and she-buffaloes to be served. The males are usually selected from among the best young stock in the villages before castration. In addition, these bulls are not stall-fed, but are allowed to roam about over the village lands during which process they do considerable damage to standing crops. Nor are the number of animals they are to serve daily regulated. Under the Viceroy's 'gift scheme' good breeds were supplied to various villages on condition that they were to be properly stall-fed and their service properly regulated. Complaints were received about the failure of these bulls in breeding. The official viewpoint is that this was because most of the bulls were neglected and under-fed, having been placed in unsuitable villages and with

¹ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 182.

² *ibid.*, Part I, p. 422.

³ *ibid.*, p. 436.

⁴ *Season and Crop Report of the Bombay Province, 1939-40*, pp. 106 and 128.

unsuitable agents¹ These causes may be partly at work. But the writer's observation of one such gift bull presented to a village in Surat,² where high caste and enterprising cultivators lived and who took scrupulous care to feed the animal properly and carefully and looked after it in every way, induces him to lend credence to the popular complaint. The bull totally failed in its purpose and after a good deal of expenditure on its upkeep it was castrated and sold as an ordinary bullock with the sanction of the Government. It was alleged that the reason for these unfavourable results was the selection of these bulls from local *panjarapoles* and *rabanis* without properly looking into their pedigree. The number of breeders issued by the Government under their schemes of rearing and giving male buffaloes of good strain and of issuing 'premium' bulls is also highly inadequate in comparison with the number of milch cattle to be covered.³

As a result of the poor quality of milch cattle and inadequate breeding facilities the period of lactation or the duration of time of yielding milk of dairy animals is short. Some regional surveys have assumed twelve months as the period of lactation for both the cow and the buffalo in Surat.⁴ Discussions with a few farmers in Surat having dairy as an important side occupation showed that the period of lactation of a buffalo ranges from twelve to fifteen months while in the case of an average cow it does not exceed eight months. In Broach and the Panch Mahals a buffalo yields milk for eight months on an average per lactation, while in the Kaira and Ahmedabad districts this period extends from nine to ten months.⁵ There are, therefore, immense possibilities of increasing the yield of dairy animals by lengthening the period of lactation and thus save the farmer the heavy cost of their upkeep when they are not productive by improving the quality of the cattle.

Insufficient and defective feeding is also responsible for low milk yields. A milch cattle in Gujarat now gets on an average

¹ *Annual Report of the Department of Agriculture, Bombay Province, 1938-9*, p. 29.

² Village Pipalgabhan in Chikhli Taluka.

³ *Annual Report of the Department of Agriculture, Bombay Province, 1940-1*, pp. 36-7. For rules and regulations regarding the issue of premium bulls, see *Report of the Royal Commission on Agriculture in India, Vol. II, Part I*, pp. 408-9.

⁴ Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, pp. 162-3 and Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, pp. 139-40.

⁵ Patel, A. D., *Indian Agricultural Economics*, p. 104.

9.52 lbs of roughage and 0.19 lb of concentrates per day while their estimated daily requirements are 13 lbs of roughage and 0.75 lb of concentrates. Thus the animals in milk get only 73.65 per cent of roughage and 25.60 per cent of concentrates of the actual requirements¹. If this deficiency is made up by judicious feeding, the present production of approximately 6.18 ozs of milk per head of human population of Gujarat can be raised to the potential daily production of 10.31 ozs per individual². In the Kaira district grazing lands are almost absent as nearly the entire area available is under cultivation and the buffalo which is the dairy animal is stall-fed with *kadbū*, *sundhā* fodder, *baṛī* and rice straw and leaves and foliage of trees and plants³. That this practice has been highly successful is demonstrated by the fact that the area in which it is common is the most important dairy tract in Gujarat. The milk yield of the buffalo in Kaira is comparatively very good and her period of lactation on an average the longest in Gujarat.

(iv) *Need for Improvement.* Our study so far reveals that a cow is a poor milk yielder and the primary aim in her upkeep is to obtain the draught cattle required by the farmer. The buffalo, on the other hand, is essentially a dairy animal. In addition to the financial burden of rearing a large number of unproductive animals as shown by our discussion, the maintenance of two types of cattle for two distinct purposes also weighs heavily on the cultivator. The need, therefore, of reorganizing the cattle industry of Gujarat so as to produce a double-purpose cow which will calve regularly, give more milk, and will mature early and also supply strong and efficient bullocks is apparent. This in turn will save high expenditure on importing draught animals, especially the *Kankrej* variety in North Gujarat⁴. The Government farms at Chharodī in Ahmedabad and at Surat and the Swaraj Ashram at Sabarmatī have achieved valuable results to this end, and continued vigorous efforts not in this direction alone but also towards popularizing the species so evolved among the farmers would certainly go far to solve this problem of cattle rearing in the region. Till that period, however,

¹ Burns, Dr W, *Technological Possibilities of Agricultural Development in India*, p. 117.

² Patel, A. D., *Indian Agricultural Economics*, p. 115.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 184.

⁴ Patel, A. D., *Indian Agricultural Economics*, p. 106.

the buffalo will have to be taken care of and still further improvements in her breed, period of lactation and milk yield will have to be attempted. It is said, and perhaps rightly, that as dairy cattle are an important source of manure, improvement in their quality will lead to better fertility of and yield from land.

(v) *Marketing of Dairy Products* The farmers of villages within short distances from the towns and cities mainly sell milk, and manufacture ghee in small quantities for domestic use. No information is available about the proportion of total milk production consumed at home and that sold by such farmers. The writer's study of some farmers in the villages within easy reach of Surat, Broach and Nadiad cities showed that the percentages of total milk production retained for use at home and for preparation of ghee came on an average to 49, 26.5 and 25 respectively. As a network of purchasing organizations exists in Kaira and Ahmedabad, producers in these districts sell milk and the preparation of ghee does not amount to much.¹ In both these districts merchants from Ahmedabad and Bombay have opened centres for the manufacture of cream and *mawa* from milk purchased from cultivators and in this way owners of dairy cattle have facilities for disposing of milk instead of being required to convert it into ghee. In Nadiad and Borsad talukas of Kaira district alone there are ten and eleven creameries respectively, while the number of *bhathis* for the preparation of *mawa* in both these sub-divisions comes to thirteen and six respectively.² There are three dairies at Anand, the Polson Dairy and two other small ones. The Polson Dairy is a large consumer of milk and maintains many branches in the villages for the purchase of the commodity. About one lakh lbs of milk are daily supplied to this dairy by merchants who collect it from the agriculturists.³ Besides, a fairly recent estimate puts down that in the Anand taluka alone there are about 50 cream-producing machines which extract cream from milk both for manufacturing butter and for exporting to Bombay and Ahmedabad.⁴ In addition to these agencies, the Mission

¹ *Report of the Bombay Banking Inquiry Committee*, Evidences, Vol. III, p. 87.

² *Second Revision Survey* (1942), Nadiad Taluka, p. 4 and Borsad Taluka, p. 4.

³ *Report of the Bombay Economic and Industrial Survey Committee*, Vol. II, Kaira, p. 10.

⁴ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 17.

Hospitals and Dispensaries at Anand and Nadiad are also fairly large consumers of milk. All of them together offer good market for milk and enable the agriculturists to supplement their earnings from their subsidiary occupation of dairying¹. The prices of milk offered by the manufacturers depend on its fat-content which is declared once a week on the basis of composite tests². Ahmedabad and Anand are the two important centres manufacturing butter and the production at each centre is estimated at 12,000 lbs a day³. The bulk of the export of butter of 7,025 cwt in 1930-40 from India was from Gujarat. Butter for export is usually packed in tins of half pound and one pound gross or net⁴. Out of skimmed milk left after cream is extracted casein is manufactured for export by a crude process. It is estimated that in the Anand taluka alone there are about thirty-eight casein factories where casein is manufactured from the remnants of milk after cream is taken out of it⁵. The Polson Dairy alone produces 3,000 maunds of casein annually.⁶ Out of 1,10,000 lbs of milk, 8,500 of cream, 6,800 of butter and 35 maunds of casein are reported to be obtained. As skimmed milk is the important raw material for manufacturing foods for infants and invalids, there is need to explore the possibilities of developing such an industry in order to retain these valuable nutrients for local consumption⁷.

For owners of milch cattle in the villages in the rest of Gujarat a market for milk does not exist and they have no alternative but to convert milk into ghee, although it is less paying. As most of the farmers have small quantities of ghee to sell they dispose of it locally, either in their own villages or in others adjoining theirs. The quantities of ghee retained by small cultivators with a few dairy animals examined by the writer in Surat, Broach, Kaira and Ahmedabad came on an average to 40, 33, 61.5 and 50 per cent respectively of the total production. In the Panch Mahals district the Bhil farmers rarely consume

¹ *Second Revision Survey* (1942), Anand, p. 4.

² *Report of the Marketing of Milk in India and Burma*, p. 90.

³ *Report of the Bombay Economic and Industrial Survey Committee* (1938-40), Vol. I, p. 84.

⁴ *Report on the Marketing of Milk in India and Burma* (1941), pp. 35-6.

⁵ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 17.

⁶ *Report of the Bombay Economic and Industrial Survey Committee* (1938-40), Vol. II, Kaira, p. 10.

⁷ *Report of the Bombay Economic and Industrial Survey Committee* (1938-40), Vol. I, p. 84.

ghee and market the entire production. The high percentage retention of ghee in Kaira and Ahmedabad may perhaps be due to the system of selling milk and converting only small quantities of the commodity into ghee. In view of the disposal of ghee locally due to production in small quantities it is not possible to state the quantity sold in the region. Some data, however, is available in this connexion for some places in the Kaira district. For instance, from the Mehemdabad centre alone which is the important marketing place for ghee for villages of the taluka of the same name, about 15,000 tins of ghee costing about Rs 2 lakhs each containing thirty-eight seers are annually sent to Surat, Broach and Baroda¹. Kapadvanj and Nadiad are also important ghee assembling centres and each of the talukas produces ghee worth Rs 1,60,000 every year². Local dealers at these centres purchase ghee from village merchants who in their turn obtain it from shepherds and cultivators.

It has been estimated that North Gujarat receives about Rs 25 to Rs 27 lakhs annually from dairy industry and in spite of this the possibilities of its future development are immense³.

Statistics about the shares of the producer in the consumer's prices of the cow's and buffalo's milk in Gujarat are not available. In the *Charotar* area of Baroda the producer gets only 50 per cent of the price obtained by the retailer for cow's milk and a little over 60 per cent of that for buffalo's milk⁴ and these figures may be taken as fairly representative of conditions in North Gujarat. It has been found that while the prices obtained by the producers from the sale of milk to the manufacturers in the Nadiad area of Kaira district and the Petlad area of the Baroda State come to Rs 2.6 and Rs 2.8 per maund respectively, the prices of milk for the same quantity in the respective urban centres in these areas amount to Rs 6.4 and Rs 4.5 respectively. The farmers of Nadiad taluka in Kaira and Petlad taluka in Baroda thus get 38 and 57.9 per cent of the retail prices⁵. The prices of milk offered by the manufacturers decrease still further

¹ *Report of the Bombay Economic and Industrial Survey Committee* (1938-40), Vol I, p. 84.

² *ibid.*, Vol II, Kaira, p. 14.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 17. Also see *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, p. 533.

⁴ *Report on the Marketing of Milk in India and Burma* (1941), pp. 107-8.

⁵ *ibid.*, pp. 90 and 92.

during the monsoon because large quantities of skimmed milk have to be thrown away as casein cannot be manufactured out of it during that season. These differences in prices are attributable to the exclusive reliance on the part of the producers on manufacturing outlets without any attempt on their part to organize sales of a part of the output as fluid milk. This results in assured supplies to the manufacturers on the one hand and the shortage of the commodity in the local urban centres on the other. To make matters worse, the owners of creameries, dairies and casein factories have a very efficient machinery to assemble milk and are themselves a well-organized body. The producers, on the other hand, are unorganized and sell their milk individually to creameries or merchants who collect it on behalf of the manufacturers. Thus the need for co-operative organizations of producers both with a view to diverting a part of the production of milk in the local urban market and to obtaining favourable terms from the dairies and creameries is obvious. Co-operative milk marketing societies have made no progress so far in Gujarat. There are only two such societies, one of which is at Baroda and the other at Surat. The society at Baroda has a membership of forty-five and handles eight maunds and twenty seers of milk per day on an average. The other society at Surat has 307 members but has on an average a daily turnover of four maunds and thirty-nine seers of milk only. In 1936-7 while the former society had a reserve fund of Rs 1,448 but incurred a loss of Rs 50 on its working, the latter maintained no reserves and showed a profit of Rs 1,025 for the year¹. The possibilities of co-operative creameries are also immense if small subsidies are offered to such organizations when they are started². There is one co-operative creamery per every 10 square miles in Denmark handling about 150 maunds of milk daily and producing about 2 lakh pounds of butter on an average per annum³. To achieve such a progress in Gujarat, milk production will have to be expanded many times over.

In regard to the manufacture of ghee also co-operative organizations would enable considerable economy in preparation.

¹ *Report on the Marketing of Milk in India and Burma* (1941), pp 178-9 and 194-5.

² *Report of the Bombay Provincial Banking Inquiry Committee*, Evidencees, Vol III, pp 255 and 312 and *Report of the Royal Commission on Agriculture in India*, Vol II, Part II, pp 183 and 186.

³ *Report on the Marketing of Milk in India and Burma* (1941), p. 125.

and marketing. Ghee-making today is conducted on small and uneconomic basis. If the farmers, say of a village, pool their milk production and prepare ghee on a co-operative basis, besides achieving economies in cost of manufacture and wastage due to boiling butter and filling ghee in small vessels, it would be done under better sanitary conditions. But for this purpose, the mutual distrust among the farmers will have to be removed and an honest spirit cultivated among them so that they will supply unadulterated milk to the ghee producing co-operatives.¹ The practice of adulteration of ghee and of milk by merchants at the primary assembling centres and subsequent stages of marketing have now found its way to the producers. Co-operative societies for ghee, casein and milk for individual or groups of villages would be able to put a check to these harmful practices and in addition launch efforts to improve the quality of the cattle which at present is nobody's business.

§2 Rearing of Sheep and Goats. There are in British Gujarat 1,31,676 sheep and 4,28,622 goats of which 1,28,618 or a little less than 98 per cent and 4,03,872 or more than 96 per cent respectively are in the rural areas. For 91,569 female sheep over one year in the villages there are 12,654 males, while in the case of goats of the same age group, for 2,62,738 females there are 23,890 males. Of the total of sheep in the rural areas 43,211 or 33.7 per cent are in Ahmedabad, 32,608 or 25.3 per cent in Kaira and 26,394 and 26,405 or about 20.5 per cent in Broach and the Panch Mahals and Surat respectively. In regard to goats 91,785 or approximately 23 per cent are in Ahmedabad, 77,580 or 19 per cent in Kaira, 1,29,848 or about 32 per cent in Broach and the Panch Mahals and 1,04,659 or nearly 26 per cent in Surat.² Taking sheep and goats together it will be found that they are largely concentrated in Broach and the Panch Mahals and Surat, although their rearing is common in Ahmedabad and Kaira also. The probable reason for this may be the availability of grazing facilities in the shape of grass and waste lands in the two former districts. The keepers of sheep and goats are usually shepherds who are also farmers cultivating small pieces of lands many times on tenancy.

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 356 and *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 199.

² *Season and Crop Report of the Bombay Province, 1939-40*, pp. 154-64.

The shepherds earn fairly good amounts from the sale of sheep and goats for slaughter and this serves as an important source of income to them. The owners of flocks in villages in the vicinity of towns and cities make a little money from the sale of milk. But for those in the remote villages, there is no market for milk. They prepare ghee out of it and earn a little cash by selling it. The sale of wool of sheep and goats also brings some income for the shepherds. Some of them make blankets instead of selling wool and earn money from this cottage industry.

The shepherds own no grazing lands and they either utilize the village commons for grazing the flocks or with the permission of the farmers in the villages make use of their grass lands for the purpose, agreeing to pay in return a little cash or to make over a certain number of cart-loads of manure of sheep and goats. Many times they agree to fold their animals in dry seasons on the fields of the farmers whose lands they put to use. In the monsoon, the owners of the herds build temporary sheds with thatched roofs on lands belonging to other big farmers to protect the animals against rains, and being hard pressed for cash agree to give all the manure that accumulate during these four months for utilizing lands to build sheds and for grazing. An interesting system is at work in some of the villages in Surat visited by the writer. During the whole year the shepherds are allowed to move their flocks on all the lands in the village on condition that they should fold them during the eight dry months on those lands which may be indicated by the farmers of the village. The fortnightly rights of the benefit of folding sheep and goats are auctioned by the village committee tentatively chosen by the farmers and are acquired by individual cultivators through bids. The amounts so collected are utilized in improving village roads and facilities for drinking water, etc. and thus spent for the common good of the population of the village.

It will be seen from the above discussion that the shepherds experience great hardships about grazing facilities. They exclusively rely on lands of others for the purpose. The agriculturists who own the grazing lands many times impose exacting conditions. Being poor the shepherds pay the fees for grazing and other facilities in manure, wool and ghee. No manure is thus left to fertilize the lands they cultivate. As wool and ghee

produced are largely utilized in meeting the grazing dues, little of these by-products from the industry is left for sale. Veterinary aid for their animals is also unavailable and they themselves act as surgeons to their herds. While some ordinary veterinary aid normally and of inoculation in times of epidemics such as foot, mouth and throat diseases is possible for other bovine cattle even after a little delay, such facilities are not at hand for the sheep and goats with the result that in times of epidemics they die in large numbers inflicting heavy losses on the poor shepherds.

§3 **Poultry Farming** Poultry rearing, if properly developed, can be of considerable help to the farmer as subsidiary to agriculture. Because of the almost negligible cost in comparison with the returns from the sale of the products, the occupation would make substantial additions to the meagre earnings of the farmer from agriculture. The breeder's outlay on the purchase of fowls and their upkeep amount only to a little. Any depletion in the number of fowls either on account of sales or deaths due to diseases or otherwise is more than made up by rapid additions to their number and, therefore, purchases of poultry have only to be made occasionally. The fowls search out their own food while roaming over courtyards and open fields and are fed by the owners only at times, particularly during the monsoon when the showers are heavy and the birds cannot move out. For various reasons which we shall describe later, the industry has not occupied its due place in the rural economy of the land. We shall begin the study of the subject with the consideration of the existing position of the industry. The table on pp 234-5 gives statistics of poultry in British Gujarat according to the official census of agricultural stock and poultry taken in 1940.

Out of 5,04,920 poultry in British Gujarat as many as 5,02,275 or approximately 99.5 per cent are fowls. Other poultry comprising ducks, drakes and ducklings are only 2,645 of which 1,164 or about 44 per cent are egg-laying ducks. Of 5,02,275 fowls in the five British districts of Gujarat 92.3 per cent are concentrated in Broach and the Panch Mahals and Surat, the share of the latter area alone being nearly 60 per cent. Surat, therefore, is the most important district from the point of view of poultry rearing. The Broach and the Panch Mahals districts hold a second place, while in Ahmedabad and

HENS, COCKS AND CHICKENS IN GUJARAT, 1939-40

District	Hens			Cocks			Chickens		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Ahmedabad	4,718	1,606	6,324	1,654	475	2,129	5,310	991	6,301
Brooch and Panch Mahals	55,243	3,118	58,361	15,488	768	16,256	87,043	2,720	89,763
Kaira	7,678	2,427	10,105	2,855	519	3,374	9,013	1,094	10,107
Surat	1,14,491	2,037	1,16,528	59,622	1,893	61,515	1,20,174	1,338	1,21,512
Total for British Gujarat	1,82,130	9,188	1,91,318	79,619	3,655	83,274	2,21,540	6,143	2,27,683

HENS, COCKS AND CHICKENS IN GUJARAT, 1939-40—(CONT.)

District	Total fowls			Total poultry		
	Rural	Urban	Total	Rural	Urban	Total
Ahmedabad	11,682	3,072	14,754	11,764	3,154	14,918
Broach and Panch Mahals	1,57,774	6,406	1,64,380	1,58,021	7,244	1,65,265
Gandhinagar	19,546	4,040	23,586	19,584	4,064	23,648
Gujarat	2,94,287	5,268	2,99,555	2,95,168	5,926	3,01,089
Total for British Gujarat	4,83,289	18,986	5,02,275	4,84,532	20,388	5,04,920

Kaira poultry farming does not occupy a notable place. Another fact to be noted in this connexion is that of the total fowls in Gujarat a little over 96 per cent are in the rural areas indicating that this occupation is largely confined to the country-side. There are 1,80,493 hens laying eggs which form a little over 35 per cent of total fowls. Almost the entire number is of *desi* variety and the rearing of improved types of birds is absent in Gujarat.

Poultry-keeping like dairying is essentially an occupation of the housewife. The Dublas, Dhodias, Kunknas and Naikas in Surat and the Bhils and the Dublas in the Panch Mahals are the communities primarily interested in this occupation. In Surat poultry-keeping is essentially the occupation of the landless Dubla agricultural labourers. In other districts also it is the backward classes like the Vagris, Dharalas, etc., who maintain poultry herds. The higher and the intermediate castes of farmers are prejudiced against the occupation for religious reasons. Jainism and its principle of non-violence have a profound influence on the populace in Gujarat. Farmers of the upper castes like the Brahmins, Patidars and Kanbis look upon this industry, which is an important subsidiary source of income, as degrading and not compatible with their social position. These feelings have proved formidable barriers to the development of this occupation to an appreciable extent. It is, however, possible to remove these obstacles slowly through propaganda. The march of time and the changes in social values that it brings about would also go a long way in removing the deep-rooted antagonism towards this calling.

The conditions of breeding and upkeep of the fowls in the villages are highly unsatisfactory. The birds are either perched on the branches of trees or on bamboo sticks suspended in the verandahs of the huts. Not infrequently the producer encloses the entire flock owned by him under a large bamboo basket at night. There are generally no enclosed pens, runs, proper poultry houses or nests to protect the birds or to collect all the eggs. The keeper practically has no hand in the feeding of the fowls. Like the birds of the air, the fowls have also to roam about in search of food and in doing so they often become prey to dogs, cats or jackals and the chickens to kites and crows when they accompany the hen during the latter's quest for food.

This practice of leaving the birds unattended for a greater part of the day when they roam about to feed themselves carries additional disadvantages. Sometimes the birds lay eggs in unknown places and the conditions of poultry-keeping described above are such that the producers are not aware of the fact. Often the birds trample the eggs. The eggs are at times damaged by kites, crows and such other birds of prey. However, the producers in Surat commonly note the time when the hens lay eggs and shut the birds under baskets at the proper time. In this way they try to minimize the loss of eggs laid. The need to improve the conditions in which poultry is maintained is apparent. A system of hand feeding and provision for enclosing birds at night to afford them protection against weather and wild animals and confining hens when laying eggs are essential to increase returns. There are also possibilities of improving the breeds of the birds either by importing improved fowls or by crossing the indigenous ones with better types from outside and thus make the poultry more resistant to diseases.

(i) *Production and Marketing of Eggs* We have no figures of the average annual egg-laying capacity of the *desi* hen in Gujarat. A village survey in South Gujarat roughly puts down 30 eggs as the average annual production per *desi* hen¹. The all-India annual average of eggs laid by a *desi* hen is 53 or approximately one egg per week². On the Baroda Poultry Farm it was found that a *desi* hen on an average lays 60 eggs annually³. Two more estimates put down the annual production of a country hen in Gujarat at fifty and about 50 to 60 eggs respectively⁴. From the figures, of sales of eggs per hen by some of the producers, which the writer collected during field-work in the Surat district and which shall be mentioned presently, the laying capacity of a hen appears to be an under-estimate. We shall, therefore, adopt the all-India average of eggs laid by a *desi* hen to roughly find out the total egg production in Gujarat. Taking that each *desi* hen lays one egg a week, the total annual production for 1,80,493 hens in British Gujarat would be nearly 93,85,646 eggs.

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 179.

² *Report on the Marketing of Eggs in India and Burma*, p. 15.

³ *ibid.*, p. 265.

⁴ Burns, Dr. W., *Technological Possibilities of Agricultural Development in India*, p. 114, and *Report of the Bombay Banking Inquiry Committee*, Vol. III, p. 86.

It is possible to increase the annual production of eggs from indigenous hens in India by the application of scientific methods from 50 to 130 per bird or by 160 per cent. At least half of this or an increase of 80 per cent is quite possible in the country as a whole¹ In Gujarat the annual production of eggs per head of human population comes to about 5.8 and it is possible to raise the figure to 10.7 in this way. It has been also said that by breeding with better cocks the production of eggs of *desi* hens can be raised by 40 to 60 per cent² It should be remembered that the present keeper of poultry who is either a landless agricultural labourer or a very poor farmer with hopelessly fragmented pieces of land for cultivation has neither the means nor the initiative to bring about these improvements and place poultry rearing on a scientific basis. It is only when the enterprising farmers of higher castes with means take interest in the occupation that improvement in the quality of the birds and eggs and the condition of the upkeep of the former is likely.

Separate figures for British Gujarat of the quantities of total production retained for home consumption and hatching are not available. It is also not possible to ascertain the proportion that could not be collected due to layings by hens at unknown places. The village survey referred to earlier estimates that about 17 per cent of the eggs are retained for hatching and about 33 per cent and 10 per cent of the total production are respectively consumed and wasted thus leaving only 40 per cent of the quantity produced for the market³ According to this survey, therefore, out of the production of 30 eggs per hen per year only twelve will be sold. The writer's inquiry in the Surat district and the all-India marketing survey produce different results. The quantity retained for hatching and that wasted on account of inefficient collection remain more or less the same but the quantity consumed varies from producer to producer. It was found that the landless *Dubla* labourers who receive wages in kind and are hard pressed for money consume eggs only occasionally and market almost their entire egg production. The economic conditions of the *Dhodias*, *Kunknas* and the bulk of *Naikas* and

¹ Burns, Dr W., *Technological Possibilities of Agricultural Development in India*, pp. 111 and 118.

² *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 86.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 179.

Bhils who keep poultry are similar and being always in need of cash sell almost all the eggs they command. Only some Naika and Bhil farmers who follow this occupation as subsidiary to agriculture, retain a good portion of their egg production for consumption. Although it is not possible to ascertain this proportion, some idea about it can be had from the quantity of eggs sold per hen by both the classes of producers mentioned above. Some of the landless Dubla labourers who maintained three to four egg-laying hens were found to be selling about 77 eggs per hen annually. On the other hand, the Naika producers who maintained fowls in fairly large numbers which included sometimes as many as 20 egg-laying hens stated that they sold approximately 36 eggs per hen annually. They also stated that a hen lays eggs for six months in the year and yields nothing during the rest of the period. As against this the all-India figures of retentions by keepers of *desi* fowls for hatching and consumption come to 20.1 and 20.3 per cent respectively thus leaving a marketable surplus of approximately 60 per cent of the total production¹. We may thus state that the annual marketable surplus of eggs for British Gujarat would be round about 56,11,380 out of a total production of 93,86,636.

(ii) *Marketing* The important centres for the consumption of eggs in Gujarat are Surat, Baroda, Ahmedabad, and smaller places like Dohad, Godhra, Nadiad, Broach, etc. A specially favourable factor about poultry farming in Gujarat is that the urban centres which are large consumers of eggs are situated within 200 miles of producing areas. It has been estimated that about 10 per cent of the Hindus also consume eggs but in Gujarat probably this proportion should be appreciably lower in view of the religious influence which keeps the bulk of the Hindu population strictly vegetarian. The Parsis and Christians are the important consumers of eggs with the Muslims coming next to them. While almost the entire production of eggs from the Surat district finds its way to Bombay, eggs produced in the Panch Mahals are partly absorbed in Dohad and Godhra and the remainder is sent to Baroda and Ahmedabad. In the other districts the production is not considerable and the small quantities are disposed of in the nearby urban centres.

¹ *Report on the Marketing of Eggs in India and Burma*, p. 25.

Like all agricultural produce, eggs are not graded by the producers. They sell eggs in the condition in which they are produced to the egg-collectors who move from village to village on foot with a basket or two suspended at two ends of a bamboo stick. In addition to collecting eggs they also do hawking in the rural areas and many times they abandon the former vocation for considerable time and concentrate entirely on the latter. These collectors visit the villages usually once or twice a week. They move from hut to hut or occupy a central position, invite the producers with their few eggs and make purchases against cash. Eggs are properly scrutinized and stale and cracked ones are rejected. The collectors in their turn sell the eggs to merchants at taluka towns and other important centres like railway stations and semi-urban places situated not far from stations. Retail dealers in the villages also purchase eggs from producers to make a little money by selling them to the merchants at the assembling centres. Sometimes the merchants also send out their own men to collect eggs either in the villages or to other collecting centres when the quantities presented by various collectors are not enough for export. Following are the important assembling centres for eggs in South Gujarat including the Baroda State territory and the maximum and the minimum number of eggs collected daily.

Centre	Approximate number of eggs collected daily ¹
Anawal	3,000-5,000
Billimora	10,000-25,000
Bulsar	3,000-5,000
Chikhli	5,000-10,000
Dungri	3,000-5,000
Navsari	5,000-10,000
Pardi	5,000-10,000
Rankuwa	5,000-10,000

There are a few more small centres such as Khergam in the Chikhli taluka of Surat, Gandevi in the Navsari district of Baroda, Waghreh near Billimora, etc., from where eggs are also exported to Bombay but data about them are not available.

The eggs are graded at these assembling centres by merchants

¹ *Report on the Co-operative Marketing of Agricultural Produce*, p. 147

and are then packed in earthen pots for transport by rail to Bombay. The openings of the pots are covered with baked earth lids, coir string and a little dung and earth or waste paper and the printed label bearing the name of the consignor and consignee pasted on them. The pots are then put in a bamboo basket with a little straw in between and both are securely tied with strings prepared from *khajuri* leaves. Each pot carries from 150 to 350 eggs according to size. Pots manufactured for filling *gur* are also used as containers, 400 eggs is the capacity of such an earthen vessel. It is interesting to note that a few damaged eggs are usually kept on the top before covering the pot with a lid, although the reason for this practice could not be understood.

We shall now deal with the existing marketing organization. Absence of grading of eggs which we noted earlier brings lower returns to the producer as both the big and small eggs are disposed of together at the same price. Besides, assembling of eggs from the producers in the villages is not regular. Sometimes more than one collector may take rounds in the villages during a week or on the same day and at others the producers may not be able to market their eggs for days on end for want of local purchasers. Producers in villages where there are retail merchants purchasing eggs do not experience this difficulty. It is interesting to note, in this connexion, the system adopted in the Bansda State with an area of 215 square miles and producing approximately five lakhs eggs annually. The right of assembling eggs for export outside the State is auctioned by the Government, the highest bidder procuring the right of collection for which a licence is issued to him. The licensee is bound to purchase all the eggs offered for sale by the producers, except the stale ones, at a price which is also fixed at the time of granting the right. As eggs from the State are mainly exported to Bombay the price of the commodity prevailing in that city at the time of auction of the right is taken into consideration in fixing the producer's price. Normally a price of three annas per dozen eggs is fixed. In addition, the licence-holder has to maintain a regular assembling service in all the villages through collectors employed by him and the producers can complain to the revenue authorities of any difficulties experienced in the regular disposal of eggs. The producer cannot export the eggs outside the State limits or

sell them for trade purposes to any party other than the licensee unless permitted by him, although he is not prevented from selling his produce directly to the consumer. The advantages of this arrangement are that the producer, on the one hand, is guaranteed a regular market and a fixed price for his eggs and the merchant, on the other, is assured of regular supplies of eggs for export. It would also bring some revenue by way of licence fees to the Government. For instance, the Bansda State earns a revenue of Rs 600 to Rs 1,000 annually through the grant of the right to assemble the eggs. As, however, there is no provision regarding stale eggs, their sale is also carried on with the help or connivance of the licensee, a practice which requires to be discouraged. In addition, if some arrangements for grading eggs and offer of better prices for superior varieties are made, the quality of the eggs produced will be greatly improved. Besides, the allocation of villages among the licensees for the purpose of assembling eggs should be so made that each collector brings in about 300 eggs per day which is considered as an economic unit to work upon. Further, after making allowance for supervision and other administrative charges arising out of the grant of licences to collect eggs, it should be arranged that the balance of revenue through the source should be utilized in improving marketing facilities.

We have noted the arrangement about packing eggs for transport. The idea behind the use of earthen vessel as container is that because it is fragile the porter will give it all the necessary care and attention while handling it in transit. It is obvious that transport of eggs in baked earthen vessels would result in damage to the contents during transit. A complete smash up of the container is also not uncommon, in which case hardly 100 out of 350 eggs¹ can be recovered in good condition. Even when only some eggs crack in the pot, others in the container would be soiled. Sometimes such broken eggs get jammed with others on drying and can only be separated with difficulty. Soaking them in water for a considerable time and a good deal of washing and cleaning becomes necessary before the undamaged eggs can be sold. Although the cost of packing in earthen pots only comes to an anna for 100 eggs, taking the damage that is caused into consideration, it proves very expensive in the end.

¹ *Report on the Marketing of Eggs in India and Burma*, p. 109

A few merchants use boxes in place of earthen pots but sometimes they forget to mention about the contents in them and the damage to eggs by rough handling in transit is heavy. It is possible to improve the present practice of packing and minimize damage by placing some soft packing material both to separate one layer from another and between eggs also. The baskets or boxes with suitable packing material would also be a considerable improvement over the method in vogue.

The usual price the producers in the rural areas obtain for their eggs comes to three to four annas per dozen. The price of eggs in the producing areas is highest during August when production is lowest¹. The consumer's price for eggs in Bombay, which is the main market for South Gujarat, varies from six annas to nine annas per dozen. In the Baroda market, which may be taken as indicative of conditions in the urban markets in the Middle and North Gujarat, the average retail price of eggs amounts to five annas and two pises per dozen². Thus the producer's share in the consumer's price is a little over eight annas in the rupee. Even after making allowance for packing charges and railway freight and the damage to eggs in transit, it will be found that the number of middlemen and their share in the consumer's price are abnormally high. The difference between the collector's and the producer's prices in the Baroda area alone amounts to about one and a quarter annas per dozen. The average of this difference for the whole of India has been calculated at nine pises per dozen. Similar figures for South Gujarat are not available, but these would serve as a useful index. Creation of organized daily or weekly markets at the important marketing centres would be of little use in view of the nature of the produce to be dealt in. The solution to this inefficient marketing organization lies in properly organizing the collector who occupies a key position in the machinery so as to ensure collection of eggs at regular and frequent intervals. One way of achieving this is through the grant of monopoly to collect eggs to merchants, as has been done in the Bainsda State. The co-operative eggs marketing societies can also take up this work and arrange for assembling, despatching and marketing in the important urban centres of consumption. Such societies may

¹ *Report on the Marketing of Eggs in India and Burma*, pp. 79-80.

² *Ibid.*, p. 70.

either be organized for groups of villages or one for each sub-division, according to the amount of the produce to be handled. The sale organizations may look after both assembling and marketing or concentrate on the former and by federating into bigger societies at important stations and urban places leave the latter function to them. The organization of sale societies is of special significance because by eliminating the middlemen they will save their charges and swell the returns to the producers to that extent. Hitherto no thought has been devoted to this aspect of the problem and it is high time that such societies are floated not only for organizing the sale of eggs alone but also with the wider objective of developing the occupation as a whole.

Our study of the cottage and other allied agricultural industries has indicated that

(a) Many old cottage industries still survive in Gujarat. These crafts should be revived through proper organization. This would ensure efficient production and better marketing facilities.

(b) The income of the farmer from dairying should be raised by increasing the milk yield of the dairy animal and by improving marketing of dairy products. The former can be achieved by improving the quality of the milch cattle as well as its feeds and the latter by starting producers' co-operatives.

(c) In regard to poultry farming the problems to be tackled are more or less similar to those of the dairy industry. The egg-laying capacity of the fowl should be considerably augmented by improving the quality of the bird. The fowl should also be regularly and properly fed. Arrangements for quick and easy disposal of eggs should also be made on a co-operative basis. In order that these improvements can be carried out easily, the upper classes of farmers who have initiative and means should be encouraged to follow the occupation.

CHAPTER IX

MARKETING AND COMMUNICATIONS

IN a system of production for marketing, distribution is as important as production, and an inefficient distributive system may greatly nullify the effects of any improvement in production technique. With greater attention to agricultural conditions in India, the distribution of agricultural products has also come in for greater study. But so far there have been little practical results. No systematic machinery exists for the marketing of crops in Gujarat, except perhaps for cotton to some extent, with the consequence that a disproportionately large slice of the price paid by the consumer for the agriculturist's crop is absorbed by the intermediaries and the farmer has to waste a good deal of his time, attention and energy towards the disposal of his produce. The incentive to put in his best efforts to produce more and produce better is damped to some extent because of his failure to realize full reward for his crops.

MARKETABLE SURPLUS

No published information is available about the quantities of the produce sold and retained by the farmer of Gujarat. This aspect was not touched upon during the regional surveys that were carried out in some parts of the tract. Most of the marketing surveys undertaken by the Government of India furnish figures for the whole of India and some for Provinces and States. The writer had, therefore, to rely on his investigation alone to estimate the quantities of crops retained by the farmer to meet the domestic requirements of consumption and seeds and for paying wages to the labourers in kind and other such payments and those sent to the market. Naturally the figures can only be rough approximations.

From the table on p. 246 it will be seen that farmers of Gujarat raise food crops primarily for their own requirements and sales are only of secondary importance. The quantities retained and sold vary very greatly from farmer to farmer¹. In addition, in places where garden cultivation is important, as for instance, in many villages of the Surat district, the farmers produce just enough

¹ *Farmers of Bardoli*, Bardoli Swaraj Ashram Publication No. 1, pp. 22-3.

MARKETABLE SURPLUSES OF VARIOUS COMMODITIES

District	Wheat	Jowar	Maize	Bajra	Paddy	Ground nuts	Tur	Val	Gram	Lang
Ahmedabad	63 5	49 6		40 6						
Broach ..	49 1	36 9								
Kaira ..	57 3					85 5	66 2			78 0 *
Panch Mahals	38 5		19 1		18 2	83 0			47 1	
Surat	38 5	38 1			22 9		38 4	42 2		

of cereals for, and sometimes even less than, their actual needs. Only when large areas are under food crops, e.g. the *Bhal* tract in Ahmedabad and the black soil tract of Broach and Surat, dependence of the farmers on the sale of their foodgrains to obtain money for meeting cash expenditure is considerable. With most of the farmers, however, cotton, tobacco, groundnuts and fruits and vegetables are the important money crops.

Figures for marketable surplus for tobacco could not be had. Some idea of the quantity of the crop retained by the farmers, however, can be had from figures for the Baroda State. Tobacco is raised both in Baroda State and British Gujarat in the same tract, viz. *Charotar*. Besides, the farmers in both the territories are Patidars who have the same mode of living and follow uniform agricultural practices. It has been estimated that about 9.5 per cent of the tobacco crop is retained by the farmers for use at home in Baroda¹ and the quantity withheld from market by farmers in Kaira would, therefore, be nearly the same. Tobacco is also raised in *bet* lands of some of the rivers of Gujarat, more particularly the Narbada, as a dry crop. The varieties grown and the classes of cultivators being the same, the same quantity of tobacco must be retained by the farmers for use. It should be noted that the entire production of Virginia variety of tobacco is sold. Out of the *desi* varieties also only the rejections and the inferior quality are retained for home use and the superior quality that would bring good prices are disposed of. Farmers usually market the entire crops of cotton every year and retain small quantities only occasionally for their requirements. An inquiry into the marketing of cotton in one of the regions of Gujarat revealed that 98.4 per cent of the total outturn of the year was marketed during the season.²

It will be interesting to compare the statistics of the marketable surpluses of India and of the Bombay Province with those of Gujarat in respect of commodities of which marketing surveys have been carried out by the Government of India.

The marketable surplus of groundnuts in Gujarat is almost the same as in the case of all-India. In regard to tobacco, the marketable surpluses for Gujarat and the whole of India are not at much variance. The percentage of wheat marketed exceeds

¹ *Report on the Marketing of Tobacco in India and Burma*, p. 36.

² *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p. 27.

PERCENTAGES OF VARIOUS COMMODITIES MARKETED¹

Commodity	Percentage of quantity marketed	
	Bombay	All India
Tobacco	89 0	92 5
Groundnuts		85 0
Wheat		53 0
Rice	34 0	40 5
Gram		44 0

that for all-India in Ahmedabad and the Matar taluka of Kaira. This is probably because in these regions wheat is an important money crop. The farmers of *Bhal* tract do not consume wheat all the year round. They, therefore, retain only a small quantity of the cereal for consumption and seeds and market the rest.² In the Matar sub-division also wheat is not the staple food of the poor cultivators. They generally consume rice and *bajra* for which there is no surplus for sale although appreciable areas of land are under them. For payment in kind also inferior grains are largely in use. In Surat the wheat crop is not important while in the Vagra taluka and Hansot mahal in Broach although its production is considerable, the quantity marketed is comparatively less. With regard to rice the marketable surpluses both for the Panch Mahals and Surat are much below the all-India figure as it is the staple food of the people and the production is just sufficient to meet domestic requirements. During the survey of a village in the Bulsar taluka of Surat it was found that only about 5 per cent of the paddy crop was marketed.³ The widespread practice of paying both farm-servants and hired labour in kind and the requirements for seeds are two additional factors accounting for low marketable surpluses in grains.

¹ Taken from the *Reports on the Marketing of Tobacco, Groundnuts, Wheat, Rice and Gram*.

² *Second Revision Survey Settlement, Dholka Taluka*, p. 27. Also see *Report on the Marketing of Wheat in India*, p. 16. Conditions in British Gujarat may be taken to be very much similar to those in the Baroda State in this regard.

³ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 183.

§1 **Marketing Practices.** (i) *Tobacco* The up-country merchants who buy most of the crop make purchases through local agents or dalals who in their turn arrange with the sub-dalals in the villages for purchase from the farmers. Each village has one or more sub-dalals who in most cases are themselves tobacco growers. Some of the dalals, who own processing factories besides acting as commission agents to outside merchants, also make purchases on their own account. The farmers dispose of the whole of the tobacco crop in their own villages. The dalals are experienced parties and collect detailed information about the crop long before it is ready. A little before the harvesting time, the dalals move from village to village where they meet the sub-dalals. The tobacco samples are inspected. As the quality of tobacco varies from village to village and sometimes from field to field, merchants who purchase large quantities themselves prefer to visit the producing areas for personal inspection of the crop. Some of the merchants make it a practice to purchase the produce of certain selected fields year after year to maintain uniform standards. If the dalals or the up-country merchants, as the case may be, are agreeable, the sub-dalals invite quotations from the cultivators under cover which are then communicated to the dalals in the same manner. The transaction is completed after some bargaining on both sides. The dalals try to keep the quotations secret from the up-country merchants. The sub-dalal, therefore, is the only party who is in the know of the entire situation and in a position to work to the advantage of either the cultivator or the dalal. In actual fact, he acts in the interest of the dalal in order to win his increased patronage. Some of the cultivators also sell their standing crops to the sub-dalal or other big growers a few weeks before they are ready for marketing. The growers pluck the green leaves and deliver them at the curing yards of the purchasers. In the event of damage to the crop due to frost or untimely rains the contract becomes void and the cultivator bears the loss. The grower is similarly responsible for the loss from the fields due to theft. When the crop is ready, either the dalal sends labourers for weighing and packing the tobacco or the sub-dalal arranges for them although this cost as well as that relating to transport are met by the purchaser. Tobacco is filled in bags, stitched and weighed by the sub-dalal in the presence of the cultivator who also helps in the process.

The bags are then sent directly to the station for dispatch to the merchants in case the tobacco is wanted by them in the same condition as produced by the cultivator. In the majority of cases, however, the merchants want the dalals to further process and grade the commodity in the curing yards owned by the latter before being sent to the final destination. The processing factories serve as important assembling centres for tobacco. There are 111 tobacco *khallis* spread widely in the Nadiad, Anand and Borsad talukas which are the most important tobacco growing sub-divisions in Kaira.¹ Almost every other village is a market centre and the farmer is not required to deliver his produce at a great distance. Chikhodia, Anand, Nadiad and Petlad are the important assembling centres for tobacco in *Charotar*.²

The village sub-dalal guarantees payment to the farmer for the produce delivered. Although payments are made from a week to six months after sale, the bulk of the farmers generally receive the value of their produce within a month.

Most of the farmers sell the produce between December, when the crop is ready, and April. Supplies of tobacco begin to decline in May and by the end of June the marketing of tobacco is almost complete, except in the case of a few well-to-do farmers who can store the produce for a better price. The reasons why the farmers dispose of their tobacco crops before the rains set in are two. Roads in *Charotar* are reduced during the monsoon to bad conditions when many villages become nearly inaccessible. Financial needs of the farmers also play considerable part in the early disposal of the crop. From October to December, supplies again come in the market on account of sale by the farmers who maintained stocks of the previous harvest. The higher price of a rupee or two realized during these months as compared with that prevailing during the preceding marketing season acts as an inducement to the growers, who can afford to store the crop for some time. The premium realized on account of the delayed disposal is solely due to improvement in the smoking quality of tobacco after it is allowed to stand for some time.

(ii) *Cotton* The disposal of cotton is more or less on similar lines to that of tobacco. The growers and representatives of

¹ *Second Revision Survey Settlement, Nadiad, Anand and Borsad*, pp. 3-4.

² *Report on Fairs, Markets and Produce Exchanges*, Government of India, p. 124.

foreign firms at important marketing centres and petty local merchants are commonly the purchasers. Barring a few, most of the farmers in Ahmedabad sell *lallas* or bolls instead of offering *kapas* for sale. Elsewhere in Gujarat the commodity in the form of *kapas* is brought to the market for disposal. Marketing by the farmers at their own villages is frequent. A few cultivators themselves take cotton to marketing centres for disposal, but the extent to which this method is adopted varies from place to place. In Ahmedabad farmers of villages near the market centres, like Dhandhuka, Bavla, Sanand, Barejadi, Kalol, Viramgam, etc., usually take their cotton to the ginneries at these places and directly settle the rate with the purchasers without the intervention of the dalals. The services of the middleman are sought only in case of dispute. In Dhandhuka the produce is disposed of by auction and although the farmer is not bound to part with the produce in favour of the highest bidder, sales are generally made to him. Most of the cultivators of the district, however, sell their cotton locally in their villages.

While the cotton growers of the Kapadvanj taluka in Kaira sell their produce locally to the agents of the growers, those from the Thasra sub-division of the district take their produce to the markets and 'it is very rarely that dealers and the agents of the traders go to the villages for purchase'.¹ It has been estimated that in the Panch Mahals district only about 8.8 per cent of the total sales of cotton take place locally in the villages and the remainder of the crop is disposed of at the market centres. In the Broach district almost the entire crop is marketed locally in the villages. About 80 per cent of the cotton crop in the Broach district is marketed locally and the remaining 20 per cent finds its way to the Broach, Jambusar and similar market centres.² Some of the reasons for the preference on the part of the cultivator to sell his produce in the village itself are the small quantity of produce to be sold, want of bullock-carts to carry the produce to market, better bargaining power in the village because he can retain the crop at home in the hope of better prices, less likelihood of disputes about prices and very little or no difference between the local and market prices.³ Taking Middle Gujarat as a

¹ *Second Revision Survey Settlement, Thasra Taluka*, p. 3.

² *Report of the Bombay Provincial Banking Inquiry Committee, Evidences*, Vol. III, p. 331.

³ *ibid*, Vol. I, p. 102.

whole (which besides the Broach and the Panch Mahals districts, includes the *Kanam* cotton tract of the Baroda district), it has been found that the farmer sells about 51 per cent of the produce locally while 49 per cent of the crop finds its way to market centres for disposal¹ The conclusion that can be drawn from this is that in the *Kanam* tract the farmers sell their cotton in their villages to the dalal or itinerant dealer and do not take the produce to the marketing and ginning centres Except for Godhra in the Panch Mahals and the Jambusar taluka in the Broach district the cultivators who bring cotton to the markets do not, as a rule, employ brokers They strike the bargain direct with the brokers of the gin-owners and big merchants The gin-owners and big merchants usually employ brokers to purchase cotton It should be noted that the brokers for sellers and buyers are not the same persons where both the parties employ them When sales take place in the villages, the dalals of gin-owners or big merchants go from village to village either before the crop is ready or when the harvesting has gone part of its way and after examining the samples, where it is possible, enter into contracts with the farmers under which the latter undertake to deliver agreed quantities of cotton when all the pickings are over The value entered into the contract known as *kabala* and agreed to be paid for the produce by the dalal on behalf of his principal is the prevailing rate on the day on which the transaction is made The dalals are informed by their employers about the price at which they should offer to purchase cotton from the farmers The prices vary from time to time, and even from day to day, depending upon the fluctuations in cotton prices in the Bombay market When cotton is picked and ready for sale, it is weighed, loaded in a cart and carried by the farmer to the ginnery or the merchant's godown as the case may be. Generally, the grower is not paid the transport charges Cotton is weighed with the cart over the weighing bridge machine and the farmer is either paid the price on the spot or issued a receipt in case the payment is to be made on a later date.

The merchants and the *sahukars* are the usual agencies in the Ahmedabad district through whom the cultivators dispose of their produce in their villages While some of the merchants

¹ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p. 27

purchase cotton and get it ginned and pressed on their own account, others only act as *adatyas* to gin-owners or other big purchasers. The *sahukars* also undertake the marketing of cotton on behalf of the cultivators. The cotton growers of Ahmedabad rely to a considerable extent on the *sahukars* for the financial requirements and as such the latter are in a position to dictate sales on the terms they like. Approximately 23.5 per cent of the cultivators in North Gujarat market their cotton through money-lenders.¹ Not infrequently the cultivators bind themselves in writing to sell their cotton to the *sahukars* who collect the realizations and credit them to the accounts of their debtor farmers.² An analysis of some of the sales in Middle Gujarat, on the other hand, showed that about 27 per cent of the quantity covered by the inquiry was purchased by petty merchants, 14 per cent by gin-owners, 45 per cent by the dalal and only 14 per cent by the *sahukars*. As many *sahukars* were dalals also, a mistake of returning the former under the latter is probable. No cultivators in Middle Gujarat sign bonds to sell their crops to *sahukars* and though some verbally undertake to sell cotton to middlemen such parties either act as dalals of the gin-owners who are, therefore, the real financiers or are landlords of the farmers who do not lend money. Only in the case of about 7 to 8 per cent of the cultivators covered by the inquiry, the realizations from the sale of their cotton went to money-lenders who credited the amount to the current accounts of the respective cultivators maintained with them. These figures, therefore, show that the village money-lender in the region does not occupy any important place in the marketing of cotton.³

Most of the sales of cotton are put through during the months of January to March and by the end of April the marketing operations are practically over. In Ahmedabad the marketing is concentrated in the earlier of the months mentioned because of the limited holding capacity of the farmers. Although the cultivators in Middle Gujarat and Surat are not hampered by their borrowings in the disposal of their *kapas* either as regards persons to whom or the time at which they might sell, the marketing

¹ *Report of the Royal Commission on Agriculture in India, Vol. II, Part II, p. 16.*

² *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in North Gujarat*, Indian Central Cotton Committee, pp. 7, 9 and 11.

³ *Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in Middle Gujarat*, Indian Central Cotton Committee, p. 16.

period is more or less the same because the gin-owners in particular and the marketing organization in general function only during that time

(iii) *Gur* Some of the sugarcane growers in the Surat district, which is by far the most important region of sugarcane cultivation in Gujarat, sell their crops to two factories and one sugar plant located in the division with a view to saving the cost of crushing cane and boiling the juice into *gur*. The price per ton for different varieties of canes are fixed by the factory every year and the farmers inform the management about quantities they would supply during the season at the price. The supplies from various farmers are called for one after another according to the crushing capacity of the plant, and only when the whole crop promised to be sold by a farmer is consumed in this way by regular daily supplies, the felling of the canes of another farmer is taken in hand. Under another arrangement each farmer is to supply canes in instalments at intervals which spreads the disposal of the crop over a longer period than under the former system. This necessitates continued vigilance by the farmers over their crops to prevent thefts and damage by wild animals. Besides, expenses on watching the crops and watering them at intervals arising out of delay in disposal add considerably to the cost of production. Most of the farmers, therefore, prefer to crush the canes and manufacture *gur*.

The *gur* merchants from up-country and a few local ones come down to the villages during the crushing season along with the agents, who generally reside in the towns and go where the crushing plants are set up and the boiling of *gur* is in progress. These agents are small local merchants. Some of them also purchase *gur* from the producers partly or wholly on their own account, but most of them merely serve as intermediaries between the merchants and the cane-growers. They meet the village dalal and the three together proceed to work. Some of the merchants from far-off places do not employ middlemen, but go to the villages where they command acquaintance and through them approach the *gur* producers, the acquaintance in this way doing the work of both the town agent and the village dalal. They examine the quality of *gur*. After a little bargaining the price is agreed upon and the transaction is completed. In Surat *gur* is filled in earthen pots manufactured by local potters.

specially for the purpose and weighs from 16 seers to 22 seers in different centres. In the Panch Mahals, however, *gur* is made into lumps with the help of buckets which are then stitched over with hessian, a practice similar to the one obtaining in the Deccan. In the former method there is scope for some malpractice. In order to create a good impression about the quality of *gur* both in regard to texture and colour, the farmers generally cover the tops of the vessels with the best species and thus succeed in keeping from the observation of the purchaser the deficiency, if any, of the contents. The price agreed upon per maund of *gur* in Surat is inclusive of the weight of the earthen container and this fact is taken into account at the time of making the deal. The pots are weighed by a *tolat* recognized both by the farmers and traders. He marks the weights on the containers and charges from two to three pice per pot of *gur* for his services. The mouths of the pots are then covered with a little mixture of dung and earth to avoid theft and damage by ants, cats, rats, dogs, etc., and set in the bamboo baskets with a little straw inside to avoid breakage. The town agent or the village dalal, as the case may be, arranges for their transport from the village to the station and dispatch to the purchaser. The purchaser bears all the incidental charges beginning from payment for weighing the pots to their transport to the place of trading. Usually the merchant pays the farmer through the agent.

(iv) *Other Commodities* Marketing of groundnuts, cereals and pulses is simple. Farmers with small surpluses of foodgrains to part with usually sell to the village dealers who in their turn market the produce to the merchants in the towns at a little profit. As regards groundnuts, practically the whole of the crop in Kaira and the Panch Mahals is absorbed by the plants at Kapadvanj in the former district and Vejalpur and Derol in the latter. The cultivators cart their produce to the nearest centre where they sell it at the prevailing price which is more or less uniform except for the exceptionally good quality nuts. The produce is weighed by the merchants and the farmers are paid the price after the quantity purchased is stored in the godowns of the plant-owners. For paddy also the price paid is the one commonly prevailing from time to time and the purchasers are mainly the husking mills situated at taluka towns and other

important centres in the growing areas. In Kaira *tur* is generally purchased by merchants who maintain *khallis* to split the pulse for export. There are twenty-six such *tur dal khallis* in Nadiad, Anand and Borsad taluka and *dal* is exported mostly to Ahmedabad, Surat and Bombay. The crop of *dal* from Nadiad taluka alone amounts to 25,000 maunds annually.¹ It may be stated in general that for cereals and pulses, towns and important urban centres serve as markets and the purchasers in most cases are the petty merchants.

As in the case of rural finance in the field of marketing also, the money-lender occupies a prominent position. Particularly the farmers of the backward classes like the Naikas and Dhodias of Surat, Dharalas of Kaira and the Bhils of the Panch Mahals deliver their harvests to money-lenders who are also their landlords in some cases. The *sahukars* market the produce and credit the extent of the sale proceeds to the accounts of the respective farmers. In the Panch Mahals particularly the Bhils do not even retain grains for their requirements of seeds and consumption but store the whole harvest with the *sahukars* and borrow small quantities from them from time to time as and when required. Lately, however, they are acquiring the habit of storing in their homes small quantities for the above purposes. The farmers hardly know the prices realized for their produce and do not take the initiative of inquiring about the credit they have been allowed from fear of displeasing the *sahukars*. They borrow both in cash and kind throughout the year. They do not know whether the produce delivered is utilized towards the payment of the borrowings in kind or the money obtained from its sale is employed in full or part repayment of cash advance and interest on it. For the same reason of financial difficulty sales by farmers are usually put through within two to three months of the harvest. Nearly half to four-fifths of the wheat crop in Ahmedabad, for instance, is disposed of within three to four months of harvesting.²

(v) *Vegetables and Fruits* We shall deal with the marketing of vegetables and fruits in the big cities like Surat, Baroda and Ahmedabad and small towns and semi-urban centres in Gujarat in a general way first and then pass on to the detailed consideration

¹ *Second Revision Survey Settlement of the three talukas*, pp 3-4.

² *Report on the Marketing of Wheat in India* (1937), p 18

of the marketing organization of some of the individual commodities later on. The cultivation of fruits and vegetables has made great strides in the rural areas within easy reach of the cities. The cultivators from villages like Katargam, Bhatha, Ved, etc., round Surat and villages similarly situated in respect of other centres come to the city markets with headloads of vegetables and fruits every morning. Bullock-carts or other means of conveyance are not much in use to transport these commodities. In Ahmedabad and Broach the practice is more or less similar except for the use of small barges in the latter area to fetch vegetables and fruits from the opposite bank of the river Narbada to the Broach market. At the market the grower has his agent who undertakes to negotiate for the sale of the produce with the wholesale merchants known as *paslagias* in the Surat market. These wholesale merchants in their turn retail out the supplies among the small dealers and hawkers. Merchants in Baroda and Surat also dispatch part of the surplus of vegetables to Bombay. Thus between the producer and the city consumer there are three agencies which handle fruits and vegetables. At times, the women of the farmers' household visit the nearby towns with their small quantities of vegetables and conduct the retail sales themselves at the prevailing prices. The prices of vegetables in towns rule steady during the day but towards the evening go down considerably because in their anxiety to dispose of the remaining quantities brought for sale, the vegetable sellers offer them at ridiculously low prices. The producers of vegetables in the distant villages, on the other hand, who have appreciably large quantities to dispose of, employ middlemen in the towns who are generally *kachhis*. On being approached by a cultivator with his produce the agent makes inquiries about the likely purchasers and on finding them settles the prices. If purchasers can not be found soon, the farmer leaves the produce with the middleman who arranges for its sale at the available price either later in the same day or on the day following. Agriculturists in the remote villages usually concentrate on raising chillies, plantains and other similar products which are comparatively durable, so that even if purchasers are not found on the day when they go with the produce to the towns, they can be preserved for a few more days. There is little surplus of leafy and such other vegetables in such distant places and

the farmer arranges for their disposal in his own village or the adjoining ones through a labourer or one of the family members.

In regard to root crops like *suran*, *ratalu*, ginger, etc., which are important garden crops in the southern sub-divisions of Surat, a distinct organization for their marketing is at work. The purchasers are the farmers of some of the villages in Surat district like Kachhiawadi, Puna, Kumbharia and a few others and of the Kaira, Panch Mahals and Baroda districts and merchants from Surat. Farmers purchase these crops for re-planting, while the merchants do so for profit from their re-sale. The purchasers approach the growers through their village dalals who also raise these root crops over large areas. Although the actual harvesting time is from the middle of January to the middle of March, the activities are set in motion during October. After the crops have been inspected in the presence of all the three parties and the quality or qualities and the quantities to be purchased decided upon, the prices of the produce are arrived at after some bargaining in which the dalal plays an important role. The dalal, besides maintaining balance, tries to help both the parties, taking care, at the same time, to see that no harm is done to the patronage which he enjoys from both the purchasers and the sellers, particularly in view of the keen competition among the dalals to put through as large sales as possible to earn more commission. While dealing with one farmer he scrupulously keeps not only the other growers away but also does not allow the knowledge about the prices offered to that grower to reach them when the talks are in progress. This does not amount to much since they invariably come to know about the rates when the transaction is complete. Some of the purchasing farmers do not visit the producing areas at all but leave the work of purchasing specified varieties and settling the prices to their trusted dalals. The prices having been agreed upon the growers verbally bind themselves to sell the produce, although no written agreement like the *kabala* in the case of cotton is entered into. The dalal only makes entries in his diary for his own knowledge. Sometimes the farmer is paid a part of the value of the produce agreed to be sold with a view to preventing him from parting with his crop in favour of others in case higher prices are offered. When the produce is harvested, the dalal weighs it and arranges for its transport both by cart

and rail to the place of the purchaser, the expenses on both these counts being borne by the purchaser. The purchaser pays the price to the cultivator through the dalal within two to four months after he receives the goods. The money is remitted to the dalal either in cash or by cheque or hundis but the dalal makes payment to the grower in cash. The dalal holds himself ultimately responsible for the payments to the sellers even if a purchaser is able to pay the price on Diwali (in the next year), he makes over the amount to the grower or growers concerned and recovers the money from the seller later with interest usually at a rate of 9 per cent.

The important fruits are guava in Broach and to some extent in Surat, papaya in Broach, Kaira and Ahmedabad, pomegranate in the Dholka taluka of Ahmedabad and mangoes in the Surat district. The usual practice of disposal common to all the fruits is to sell them to contractors who purchase the entire garden products for lump sums and arrange for picking and sending the fruits to the market for sale. Papaya, however, is sold by the growers themselves in the daily market. The system of marketing of guava and pomegranate is not very elaborate. As stated, the contractors purchase the standing crops, pick the fruits in instalments and dispose them locally in Broach and Ahmedabad markets respectively. There is generally no export of guava from Broach and the contractors sell both wholesale to merchants in the city and towns and in small quantities direct to consumers. The merchants also supply guavas to local retail dealers and hawkers at a margin. There is an appreciable export of pomegranate from Ahmedabad to Bombay and other places by the merchants who purchase them from the contractors.

Mango is perhaps the only important fruit which is exported from Surat to Bombay and Kathiawar in addition to all the important urban centres of Gujarat. The *payri* variety is of little importance from this point of view. It is not possible to state the proportion of the crop retained by the growers for home consumption. The farmers sell the better varieties and retain the inferior ones for consumption at home. The backward class farmers owning *alphonso* mango trees sell the whole crop generally and retain only the *desi* varieties for use at home. The cultivators of higher castes, however, retain the inferior pickings of *alphonso* and *payri* for their use and market the superior

varieties Before a decade ago the Deccani mango merchants from Bombay used to purchase the standing mango crops in the gardens and arranged for packing, transport and disposal in Bombay Of late, however, the local merchants buy greater number of the fields The mango crop in Surat is ready by about the middle of May and the season lasts until after the rains, although most of the crop is disposed of before the monsoon sets in The merchants get active by about the middle of March when it is possible to have a rough estimate of the likely yields They visit the mango groves and strike the bargain Instances, however, have not been wanting particularly during the last war, when the merchants induced by heavy demand completed the deals with the owners of the gardens after only having a glance at the early blossoms on the trees For *desi* types the transaction often covers one or more trees according to their size, location and yielding capacities and the quality of the fruit Sometimes, only the price of *alphonso* mangoes per maund is agreed upon between the merchant and the garden owner and when the crop is mature the grower picks the fruits from the trees at his expense which are then weighed in the presence of both the parties and taken away by the purchaser at his cost Sometimes the farmer agrees to deliver mangoes at market centres mentioned by the merchants and the fruits are weighed at such places Some farmers also undertake marketing on their own account They dispatch mangoes in instalments to the merchants in Bombay who put through sales at prices that can be obtained from time to time The merchants remit the realizations to the grower after deducting their commission In view of the difficulty of supervising the activities of the Bombay merchant and the trouble involved in picking, packing and transporting fruits to Bombay which divert the attention of the growers who usually have other farming operations to look after, very few farmers follow the practice Some farmers send mangoes to their family members or relatives residing in Bombay who dispose them among their known circles Here again the difficulties of delivering mangoes at consumers' residences and collecting money from them are so great that this practice is followed only rarely Of all the three methods of selling mangoes, the first is most common Usually, the owners of mango trees are paid one-third of the price agreed upon when the contract is made and

the balance when the picking of fruits commences. The mangoes are packed in bamboo baskets with paddy or *kodra* straw or dry plantain or green *karanj* leaves the tops of which are then stitched over with hessian cloth. In order to give the container added strength to stand rough and frequent handling during transit it is tied with coir string cross-wise. This type of packing leaves much scope for thefts in transit which cannot be detected. Besides, the straw and dry leaves between the layers of mangoes placed while packing, bruise the skin of the fruits and by spoiling the natural appearance in this way lower their market value. On account of the defective packing about 20 to 25 per cent of the mangoes in each basket are badly damaged. Some farmers stated from their experience that mangoes dispatched in plywood and deodar reach their destinations without the slightest damage. If arrangements can be made to use the containers over and over again the cost will not be higher than the former practice.

§2 **Marketing Charges and Price Spread.** The deductions both from the produce offered for sale as well as from its price, besides being numerous and complex vary from locality to locality and from village to village and are a heavy charge on the cultivators. For instance, a grower of tobacco in Karna has to part with approximately 3½ seers to 9½ seers more per ordinary maund on account of deductions on various counts and because of the fact that the maund of different varieties of tobacco varies from 42½ seers to 48 seers.¹ During the course of the writer's inquiry it was found that instead of 40 seers the purchaser's maund was commonly made up of 41 seers. This excess weight does not include the omission from the calculation the residue, regarded by the purchaser as specimen of the heap of a grower's tobacco after the sacks have been filled. Many farmers reported that the quantity left as residue alone and taken away by the purchaser amounted to half a maund per heap, i.e. per grower. Thus, the allowance of half seer per maund for loss in weight by evaporation of moisture from tobacco and during transit and the number of seers which make up the purchaser's maund in excess of forty are the most important deductions from weight in addition to numerous other small ones. The allowances from the amount payable to the grower on the

¹ *Report on the Marketing of Tobacco in India and Burma*, pp 210-11.

quantity after numerous deductions from the actual weight have been effected are equally heavy. Irrespective of the time that may intervene between the sale and actual payment of the price, a commission ranging from 2 to 15 per cent is charged when the grower receives the sale proceeds¹ 6½ per cent and 7½ per cent were the common rates of commission noted during our inquiry. Two other sources put down the commission at 8 and 10 per cent which show that the discount or *watav* is high and varies from place to place². The sub-dalal gets one per cent of the commission on the value of the produce while the remainder is shared equally by the local agent and the buyer. It is also found that buyers are not keen to make purchases when the customary rate of discount is low³. In addition to this the sub-dalal receives an amount of four annas to two rupees per grower depending upon the size of the transaction and his relations with the seller, which he deducts as *pagdi* when making payment. Further, after the commission for cash payment has been deducted, the fractions of annas and pies from the amount that remain to be paid to the cultivator are eliminated. Even though tobacco is sold by the farmer in the village the cost of marketing comes to about Rs 1-10 per maund. This is about 18 per cent of the total cost of cultivation which includes material equipment, land revenue and rent, bullock labour, manual hired labour and marketing services⁴. The cultivator in the end resorts to adulteration to compensate for deductions from weight and price of his produce⁵.

In regard to cotton there has been a general complaint in the Ahmedabad district about deductions from weight. In the Bavla market the common practice is to omit to calculate the small quantity left over after the weighing which is about quarter seer per maund of *kapas* or half seer per maund of *kallas* which is generally the form in which cotton is marketed. The indigenous weighing apparatus employed by ginners in Ahmedabad, as against the weighing bridges that are in use at other places, is also responsible for errors in weight. The various

¹ *Report on the Marketing of Tobacco in India and Burma*, pp 210-11.

² *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p 317 and Patel, A. D., *Indian Agricultural Economics*, p 217.

³ *Report on the Marketing of Tobacco in India and Burma*, p 221.

⁴ *ibid*, pp 207-8 and 210-11.

⁵ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 318.

charges on account of dalal's or agent's commission, weighing and labour costs and payments in charities and for water come to one and three-quarters to two annas per maund. Superimposed on all these is the deduction of one per cent from the price in consideration for payment on the spot¹ The writer's inquiry showed that brokerage alone amounted to two annas per maund of *kallas* sold in the Viramgam market, although farmers were not subject to any such charge on the produce sold to merchants in the villages Besides, the indebted cultivator loses about 10 to 12 per cent of the price by selling through the *sahukar* In the Panch Mahals, no deductions from weight are current In Broach, in some villages where a professional weighman is employed a charge of two to three seers per *bhar* is made, but as a general rule deductions from weight are absent This may be ascribed to the prevalence of the system of local sales in Broach. In Middle Gujarat as a whole, a charge of Rs 2-2 per *bhar* in the aggregate is made by way of commission, insurance, discount for cash payment, charities, etc, and deducted from the price of cotton From inquiry it could be ascertained that a farmer of the Vagra taluka of Broach loses about 2½ to 2¾ per cent of the price of *kapas* by way of the above charges. In addition, the cultivators and petty merchants who bring *kapas* to the Jambusai and Godhra markets pay about eight annas per *bhar* to the brokers employed by them² In the Broach district, the prices agreed upon when making the *labala* is reduced at the time of actual payment on various pretexts popularly known as *kardas* or *wandhas* such as the supply of quality inferior to the one agreed to be delivered, dampness in cotton, etc When the market prices go below that agreed to be paid some of the gin-owners also instruct their weighmen to manipulate weights to make up the loss³ On account of the privileged position of the gin-owners the farmers also undergo inconvenience in obtaining the price of cotton in time⁴ It is estimated that the cotton grower of the Broach district loses about 20 to 30 per cent of the price on various counts which

¹ Report on an Investigation into the Finance and Marketing of Cultivators' Cotton in North Gujarat, Indian Central Cotton Committee, p 55

² *ibid.*, p 17

³ Report of the Bombay Provincial Banking Inquiry Committee, Vol. III, p 249

⁴ *ibid.*, p. 290

almost amounts to exaction¹ Although other investigations speak of unauthorized deductions from weight, delay in payment by as much as two months and failure on the part of the purchasers to pass receipts for cotton left by the farmers,² no farmers complained of these malpractices during our investigation. Generally speaking, in the Surat district marketing of cotton is highly systematized and deductions from weight and price are rare Even the dalal's commission, which amounts to one rupee per *bhar* is paid by the gin-owner

The loss which the agriculturist undergoes in respect of cereals on account of the defective marketing organization has been variously estimated It has been found that sales in the villages bring about 10 to 15 per cent less than the realizations at the market centres The cultivator of wheat in the Vagra taluka obtains about Rs 20 less per *bigha* than he would otherwise have if the markets were well organized³ The deductions from weight are also heavy and the loss to the farmers on that account as well as due to difference in weights between two places is considerable If a farmer from the British territory in Surat for instance, were to market his paddy at a place in Baroda State he will incur a loss of one and a half to three maunds in weight for every 21 maunds sold In the case of castor seeds, and paddy about $\frac{1}{3}$ to 3 per cent of the prices agreed upon are deducted in lieu of weighing and discount charges, loss in weight, toll, charity, etc For every rupee paid by the consumer for paddy the farmer gets only $9\frac{3}{4}$ annas⁴ During the course of our inquiry it was found that in the Dohad market in the Panch Mahals a deduction of Re 1 by way of charity, etc, was made on the sale of a quantity of 12 maunds of paddy or maize which normally fetches Rs 12 to Rs 15 In respect of *gur* the remunerations of the village dalal and the town agent are a liability on the cultivator and they are included in the discount amounting to approximately $1\frac{1}{2}$ per cent that is charged when the agent pays the price of *gur* This cash deduction is equally shared by the village and town agents and the merchant It was found during the course of a survey that the producer gets

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol III, pp 240 and 255

² *ibid*, pp 44-5

³ *ibid*, pp 223-4

⁴ Mukhtyar, G C, *Life and Labour in a South Gujarat Village*, pp 184-6.

only about 10½ annas out of every rupee paid by the consumer of *gur*¹

From the point of view of marketing charges, the growers of vegetables and fruits are, perhaps, most unfortunately situated. In the Surat market the agent employed by the seller of vegetables charges one and a half annas for every rupee realized by the grower for the produce. The *pastagias* to whom vegetables are sold, besides offering prices about eight annas lower per ordinary maund than the prevailing wholesale rates, charge 2½ seers of extra vegetables per ordinary maund for loss of weight. The *kachhis* or the middlemen in the towns and semi-urban centres charge a commission of an anna or two for every rupee realized by the farmer who usually loses, in addition, about five seers more per every ordinary maund by way of allowances and during weighment at the market place. The charges are obviously heavy. The growers complain about some sort of understanding between the broker and the vegetable merchant according to which the prices fixed are always favourable to the *pastagia*. In respect of the marketing of *suran* and *ratalu*, however, the farmer has very little to complain. No deductions are made from the price payable or allowance in weight effected for loss of weight either due to late dispatch or in transit or on any other count. The village dalal's commission for the multifarious services rendered is one rupee per *khandi* of 20 ordinary maunds which is borne by the purchaser. It will be seen that the seller has to undergo no expenses and trouble in marketing of *suran* and *ratalu*. In spite of this the grower gets only a little more than six annas of every rupee paid by the consumer. In regard to *ratalu* the condition is almost similar. Guavas in the Surat market are sold in numbers, a hundred being made of 140 guavas for the purposes of sale by the producer to the merchant. In Broach the fruit is sold on weight and no such unusual allowances in kind are asked for. Similarly, 136 *alphonso* mangoes make up a hundred in the Bombay market. In regard to *alphonso* mangoes, while the consumer in Bombay spends Rs. 8 to Rs. 10 for an ordinary maund of 70 to 75 fruits, the grower actually gets about Rs. 2-12 to Rs. 3-4 for the same quantity. Thus the farmer gets only a little more than five annas on an average for every rupee paid by the Bombay consumer of *alphonso*.

¹ Mukhtyar, G. C., *Life and Labour in a South Gujarat Village*, p. 192

mangoes ¹ If the producer were to market the crop he will undergo expenditure under the following heads on an ordinary maund .

	As.	p.
Picking and packing cost of 70.5 mangoes .	6	0
Transport charges per basket from the village to the railway station	1	3
Railway freight to Bombay over a distance of 125 miles and the transport charge from the station to the market of the destination	12	0

In this way the cost for a basket of mangoes in the aggregate would be about Rs 1.3-3. On account of defective packing about 15 to 20 mangoes are usually spoiled and the price that will be realized for the remaining 55 to 60 mangoes at the rates quoted earlier would be approximately Rs 6.1 to Rs 7.11. Even if a commission of an anna in the rupee had to be paid to the Bombay merchant, whose help may be sought for quick disposal, the farmer would be left with a net realization, after allowing for other costs, of Rs 4.8 to Rs 6.2. Taking Rs 3 as the net average price earned by the farmers for an ordinary maund of mangoes at his door, it will be found that he will earn about Rs 1.8 to Rs 3.2 more by direct sale which is today pocketed by the intermediaries. Thus even after making allowance for 20 to 25 per cent² of the quantity that will be unsaleable on account of damage in transit and 15 to 20 per cent of the consumer's price that will be absorbed in picking, packing and transport, the grower will benefit to the extent of 18.7 to 31.2 per cent of the selling price of mangoes in Bombay. It will be of interest to note that the margin of profit for the merchant varies from 5 to 25 per cent in general in the market of primary produce in Surat ³

§3 **Marketing Centres** The number of important wholesale markets where farmers can dispose of their produce is about 47 throughout the British Gujarat districts distributed as follows⁴

Ahmedabad	10
Broach	8
Karra .. .	12
Panch Mahals	7
Surat .. .	10

¹ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol I, p. 105.
² *ibid.*, p. 105.

³ *Report of the Royal Commission on Agriculture in India*, Vol. II, Part II, p. 340.

⁴ *Report on Fairs, Markets and Produce Exchanges in India*, p. 119.

The cultivators and merchants of villages and towns of Kaira, Nadiad, Dabhan, Mahudha and Limbasi in Kaira district, Pandoli and Waso from Baroda, Tarapur from Cambay and Limbdi, Wadhwan and Gamph from Kathiawar purchase and cart wheat from the *Bhal* tract¹ Similarly some farmers of the Kapadvanj taluka sell their produce in Ahmedabad and Atersamba and Halderva in Baroda in addition to marketing at Kapadvanj, Kathlal, Dakor and Nadiad

The practice of sales and purchases by farmers at periodical fairs seems to prevail mainly in the Surat district where there are as many as seventeen important *hats* in addition to numerous small ones about which information is not collected In Ahmedabad district only one such important *hat* was reported while in other districts such periodic markets appear to be non-existent² These *hats* are mostly held in areas inhabited by Kalpraj people, and their advantage is mainly taken by backward rural population

§4 Marketing Services In addition to the heavy marketing charges and the great spread between the consumer's and producer's prices, the farmer is further handicapped in the efficient disposal of his produce due to the absence of certain important marketing services No open or regulated markets for primary produce are in operation in Gujarat Only in 1943, the Agricultural Produce Markets Act was made applicable to the cotton markets at Bavla, Sanand and Viramgam³ There does not function any market intelligence service worth the name. The intelligent growers judge the likely trends of the market from the inquiries made by the merchants and middlemen who visit the villages to inspect the quality of tobacco they intend to purchase and who are probably the only source of market information Some farmers visit the nearby towns and cities and gather information about prices In the absence of this facility great variations prevail in the price of the produce from place to place Grading and standardization of agriculturists' crops too are unknown Except for small beginnings in respect of mangoes and 1027 A L F cotton in the Surat district⁴ the

¹ *Second Revision Survey Settlement, Dholka Taluka*, p. 27.

² *Report on Fairs, Markets and Produce Exchanges in India*, p. 121

³ *Twenty-second Annual Report of the Indian Central Cotton Committee* (1943), p. 50.

⁴ *Annual Report of the Agricultural Marketing Adviser with the Government of India*, 1940, pp. 22-3.

benefit of grading of crops under the 'Agmark' standards do not reach the farmers of the region. We noted that the quality of tobacco leaf in Kaira varies not only from place to place, but from field to field. The absence of a system of grading acts as a serious handicap in the way of the farmer realizing fair price for his produce. The grading and processing of tobacco that takes place at the *khallis* for subsequent disposal are primarily for the benefit of the merchants and do not improve the returns of the tobacco growers. It was found that in a village in *Charotar* the price of one variety of tobacco varied from Rs 2-12 to Rs 5 per maund on a single day¹. In regard to cotton also the various pickings instead of being kept separate are marketed together. It is well known that the first few pickings are free from any admixture, while cotton picked at later stages gets mixed up with bits of dry leaves and cells. If, therefore, instead of marketing the whole crop at a time, the early and late pickings are sold separately, the farmers will be able to realize better prices. Distinction is rarely made between smaller and larger varieties of fruits. For instance, the merchants and the farmers keep mangoes large in size and good in appearance on the top to conceal the inferior varieties in the basket. The farmers are also much handicapped for want of storage facilities for cotton in particular and other crops in general. Apart from some facilities of this kind at Palej and Broach, the compounds of ginneries and railway stations serve as warehouses for cotton. The absence of warehouses is keenly felt, especially in the case of poor farmers of backward classes who live in small huts. The Bhils, Kolis, Dhodias, etc., run great risk by storing cotton in their cottages which are likely to catch fire easily. Similarly for want of facilities of refrigeration and preservation the mango crop in Surat has to be disposed of in a short time which results in glutting the market and depressing the price of the fruit. With these facilities at hand, fruits can be preserved and small quantities offered for sale at regular intervals so as to appreciably improve the farmer's income.

§5 **Co-operative Marketing** Marketing of agricultural produce through co-operative sale societies has made little progress in Gujarat. At the end of 1939-40 there were 44 co-operative sale societies working throughout Gujarat with a membership of

¹ *Report on the Marketing of Tobacco in India and Burma*, p. 146

10,363 of which one society was functioning in each of the Ahmedabad and Kaira districts, six in the Panch Mahals, five in Broach and the remaining 31 in Surat alone. The most notable progress in this direction has been achieved by the cotton sale societies.¹ Except for two groundnut sale societies, one in each of Surat and Navsari districts, and a paddy marketing society in Surat and a similar organization for *tur* in Kaira, the rest of them are solely devoted to the marketing of cotton.² The opposition and obstruction of the gin-owners, particularly in Broach—in the form of offering tempting rates to the members of societies, if honest members brought the best cotton to the society, then they delayed ginning it, charging higher rates for ginning and pressing cotton of the societies—created misunderstanding among members and resulted in the liquidation of some of the societies in the past.³ The paddy society received a setback due to the procurement policy of the Government. Direct purchase of paddy by the authorities and ban on private trading and restrictions on movement of the cereal have practically made the society functionless. The Southern Gujarat Co-operative Cotton Sale and Ginning Societies Union, through which cotton of twenty-four societies was marketed, handled 25,526 bales out of a total 2,05,225 bales sold in the Surat market in 1940. Thus about 12·4 per cent of the total quantity of cotton sold in the Surat market fell to the share of the union. In addition to this, there are three co-operative ginneries at work in Surat which, in 1939, ginned 2,83,338 maunds of cotton at the rate varying from Rs 2·4 to Rs 3·4 per bale. One of the ginning societies maintains a groundnuts decorticating plant and a grinding mill out of which its receipts amounted to Rs 14,790 in 1939.⁴ From these facts the success of co-operative marketing of cotton would appear phenomenal, but there are two fundamental defects which require to be remedied. The societies are not able to command the full loyalty of all their members in so far as the marketing of their cotton crop through

¹ *Annual Report on the Working of Co-operative Societies in Bombay Province, 1938-9 and 1939-40*

² *Report on the Marketing of Groundnuts in India*, p. 137 and Shukla, J. B., *Life and Labour in a South Gujarat Taluka*, p. 263.

³ *Report of the Bombay Provincial Banking Inquiry Committee*, Vol. III, p. 338.

⁴ *Report on Co-operative Marketing of Agricultural Produce in India (1941)*, pp. 64-5.

the societies is concerned¹ Either on account of the high cost of management or want of personnel experienced in market conditions or both the prices realized by the members are lower by about Rs 2 to Rs 3 per *bhar* than those obtained by others who market their *lapas* direct During the last war the gap was considerably widened While the sales of cotton in 1943 effected through societies brought Rs 290 in Olpad taluka and from Rs 302 to Rs 303 in the Chikhli sub-division of Surat per *bhar*, those made direct to merchants or gin-owners fetched respectively Rs 300 and Rs 310 to Rs 325 per *bhar* in both the areas In one village it was reported that in 1943 while some of the sales of cotton by the farmers independently fetched Rs 331 per *bhar* those effected through societies brought Rs 285 for the same quantity² This discrepancy led some farmers to withdraw their patronage to the sale societies³ Instead of financing the cultivators to the extent of 75 per cent and 50 to 60 per cent of the value of the crop after it has been deposited with the society as the gin-owners in Surat and Broach respectively do,⁴ the societies can be more useful to the members by also financing cultivation Some of the farmers interviewed in the Olpad taluka are reported to have been lent funds by the societies during sowing and subsequently A right beginning has been made in this way

Our discussion has shown that on account of keen competition among the purchasers in most of the cotton-growing areas of Gujarat the difference between the market and local rates has been negligible, and the deductions both from weight and prices not excessive in most of the areas⁵ Co-operative sale, therefore, has not brought much benefit in this sphere, but the need of organizing sale societies for the marketing of other commodities is great and if in addition to disposal of the members' crops, societies make provision for other allied useful services, their utility to the farmer would be greatly enhanced

COMMUNICATIONS

§1 Roads. Communications play an important part in the

¹ Report of the Royal Commission on Agriculture in India, Vol II, Part II, p 29

² Village Varna, Chikhli taluka, Surat district

³ Village Ghej, Chikhli taluka, Surat district

⁴ Report of the Bombay Provincial Banking Committee, Vol III, p 346

⁵ A Review of the Co-operative Movement in India, 1939-40, Reserve Bank of India, p 44

life of the people To the rural areas a network of good roads is indispensable Nothing develops a country like good roads To facilitate marketing of agricultural produce, to combat effectively epidemics and famines in the country-side by rushing necessary aid in time and to carry social relief and education to the villages a well-developed system of roads is an essential prerequisite More and improved roads would not only enable new lands to be brought under the plough and ensure fair prices for the farmer's produce, but would also aid improvements in agricultural practices Particularly in regard to the extension of cultivation of fruits and vegetables as also the encouragement of dairy industry and other subsidiary occupations provision of good roads linking the remote country-side with the urban areas in the region should receive proper attention It is hardly necessary to say that in comparison with other crops and rural pursuits, fruits and vegetables and dairying bring large returns to the farmers and help to improve his financial condition The significance of this remark will be evident when it is realized that a large majority of farmers in Gujarat and in other parts of India have not only to dispose of their produce in the villages at a considerable loss, but have also to adopt the uneconomic process such as converting milk into ghee for want of easy access to urban markets through good roads During a recent survey it was estimated that every hundred rupees spent on roads would bring in a return of Rs 277 to the community through increased earnings Of particular significance is the saving in transport costs that results from good roads by raising the carrying capacity of the carts and saving physical strain on animals Thus in any plan of development, construction of new roads and improvement of the existing ones should receive the first consideration

Having dealt with the important role of communications in the life of the people in general and roads in particular in the rural areas, we shall now consider the position of Gujarat in that regard The table on p 272 gives statistics of mileage of metalled and unmetalled roads in rural Gujarat in charge of both the Public Works Department and the District Local Boards at the end of 1939-40 These figures show that for British Gujarat as a whole the total length of metalled and unmetalled roads comes to 1,089.32 and 956.48 miles respectively The roads in charge

District	Public Works Department		District Local Boards	
	Metalled	Un-metalled	Metalled	Un-metalled
Ahmedabad	165 88	30 63	67 98	284 59
Surat and Broach	245 24	2 17	165 96	550 90
Kaira and Panch Mahals	340 62	13 76	103 64	74 43
Total	751 74	46 56	337 58	909 92

of the Public Works Department are nearly all metalled and almost the entire length of unmetalled roads falls to the share of the District Local Boards. As the districts have been grouped differently for the purposes of collecting data of road mileage on the one hand and population on the other, it is not possible to assess the adequacy or otherwise of the former in relation to the latter and therefore we shall have to study this aspect of the problem for the whole of Gujarat. As against the total rural population of 28,51,517 and an area of 10,389 square miles in 1941¹ the total mileage of roads, both metalled and un-metalled, is only 2,045.80. Thus there are 71 mile of roads per every 1,000 of rural population and 19.7 miles per every 100 square miles of area. As against this, in the U.S.A. which is also a country of great lengths like ours, there are 100 miles of roads per every 100 square miles of area and one mile of road per forty people. The State of Iowa which is highly developed from the point of view of agriculture has 185 miles of road per 100 square miles². At a conservative estimate it may be said that 75 miles of roads per 100 square miles of area would be the minimum necessary to assure fairly good communications³. Even on the basis of this cautious estimate there is a deficiency of 73.8 per cent in the minimum requirement of road mileage in Gujarat. These figures will clearly bring out how highly inadequate are the roads today which are and will remain for

¹ *Census of India, 1941, Vol. III (Bombay)*, pp. 2-3

² Daftary, G. D., and Parikh, H. B., "Road Communications in Greater Gujarat", *Journal of the Gujarat Research Society*, Vol. V, No. 4, October 1943, p. 191

³ *ibid.*, p. 194

considerable time to come the only means of communication in the village

The state of unmetalled roads is highly unsatisfactory. They become unpassable during the monsoon. Many villages in Gujarat are cut off from all means of communications during the monsoon as a result of bad conditions to which the unmetalled roads are reduced. The *Bhal* tract of Ahmedabad, for instance, which is 30 miles long and 10 miles wide is virtually isolated from the outside world in respect of road communications during rains. About 40 to 75 per cent of the villages in various districts of Gujarat are deprived of all means of contact with other regions during the monsoon when the unmetalled roads become unusable. In the Surat district alone about 83.3 per cent of the villages lacking in road transport facilities are unapproachable during the rainy season and the conditions in the black cotton soil tracts may be taken as more or less similar¹. Even during the dry seasons the inter-village communications are highly unsatisfactory. The roads connecting the villages are mere cart tracks wide enough to provide passage for a single vehicle, and are often lined up on both sides with *thor* hedges and fences of adjoining fields. The inconvenience that is caused when two vehicles come opposite each other can be imagined. Many times, these tracks are through fields and the carts while passing over cultivated lands cause great harm to the texture by pounding down the soil and thus enhance the difficulty of tilling before sowing. The tracks become totally unavailable as means of communication when there are crops in the fields through which such roads pass. Instances are not uncommon where courses of running streams during the monsoon serve as cart tracks during dry seasons. Over many such tracks in the monsoon only cattle pass with the result that they are made unserviceable for considerable time even after the rains have ceased because the surface is made very rough by the deep marks of the hoofs of animals which are left when mud dries up. Even an appreciable length of 1,089.32 miles of metalled roads does not continue to be serviceable during rains. Many villages connected to the towns and other urban centres with such roads are cut off temporarily or for the whole of the wet season as a result of floods and torrents in the streams, rivers

¹ *Report of the Bombay Economic and Industrial Survey Committee*, Vol. I, p. 147

and rivulets that intercept them. Even the metalled roads, therefore, without culverts and bridges where necessary, do not ensure communications all the year round. A fairly good mileage of *pukka* district local board roads is in a bad state of repairs and also is a source of difficulty to the traffic during fair weather.

The greater portion of the mileage of unmetalled roads is spread over the black cotton soil of the region. The Panch Mahals and the southern sub-divisions of Surat are comparatively better off in regard to the provision of metalled roads. Two factors account for the unusual predominance of unmetalled roads, viz the dearth of stone metal for building roads and limited finance of the local bodies. Stony soil is absent in the black soil tract which covers a very large area of the land and makes the supply of metal for the construction of all-weather roads very difficult. The import of this essential road-building material from other regions where it is in abundance would entail disproportionately heavy cost. The slender resources of the local boards, which have been entrusted with the task of providing this facility in the rural areas, would not permit this. Even in regions where stone metal is available, meagre financial resources in comparison with the magnitude of the work have prevented the building of metalled roads. For instance, although there are a large number of stone quarries in the Pandi taluka, metalled roads are few and are in a bad state of repair¹. The five district local boards in Gujarat spent Rs 5,25,884 out of a total income of Rs 31,91,070 in 1941-2, i.e. about 13 per cent on roads divided more or less equally between the construction of original works and repairs of existing roads². The contribution of the Government to the expenditure on civil works comes to 57 per cent of the total. Besides being inadequate, the expenditure of the local bodies on roads is very unequitably distributed. There are villages which have been paying local funds cess year after year without being provided with any roads or wells for drinking water. The major district roads are at distances of two miles and more from such villages. The scattered nature of population of such villages is, no doubt, one of the difficulties in constructing roads which can be put to

¹ *Report of the Pandi Taluka Economic Inquiry Committee* (1926), p. 54.

² *Report on the Administration of Local Boards in Bombay Province, 1941-2*, pp. 13 and 25.

common use. It should be stated at this stage that in comparison with the important functions of providing medical facilities, primary education, drinking water and roads in the rural areas not only the sources of revenue of the local boards are limited but also the Government subventions in the shape of annual grants are meagre. It is not possible to raise the existing local cess of one to two annas per rupee of assessment paid by the farmers in view of the fact that the land revenue and local fund cess burdens taken together have already exceeded in many places the taxable capacity of many of the farmers. Besides, such a course would not bring sufficient funds to meet the considerable expenditure that is necessary on the nation-building activities of which the construction of roads is one.

Mention should be made of the Bombay-Ahmedabad-Rajputana, the Surat-Dhulia-Bhusaval-Edlabad-Nagpur and the Ahmedabad-Kaira-Godhra-Indore highways which open up communications with the neighbouring regions and which are nearly completed at an estimated cost of about Rs 26½ lakhs.¹

The main problem in the rural areas, however, is of providing good inter-village roads as well as approach roads connecting the villages with the major district board and P W D roads. Some useful work in this direction was achieved when the popular ministries were in power through the rural reconstruction grants from the Centre. The war intervened and progress could not be maintained. Anyone who has the occasion to move in the villages in the monsoon would know how difficult it is to cover even a distance of half a furlong without a good surfaced all-weather road. In the light of this, the Government of India's Post-war Road Plan according to which no village is to remain more than five miles away from an all-weather road is, to say the least, highly inadequate.

It will not be out of place to make a passing reference in conclusion about the suggestion to fit the bullock-cart with pneumatic tyres. It has been said in support of this suggestion that it would minimize the strain on the bullocks placed by the carts with wheels fitted with iron rings and would also greatly reduce the damage to roads. It has been also pointed out that this innovation is necessary for a successful plan of post-war road construction. Pneumatic tyres are unsuitable to Indian

¹ *Report of the Public Works Department, Bombay Province, 1939-40*, p. 51

conditions Communications between village and village and the villages and marketing centres may be perfected so as to facilitate the use of pneumatic tyres But the tracks in the village itself, on which the farmer runs his cart to carry manures, etc., to the fields and the farm-produce home, and which mostly pass through others' fields cannot be metalled It is obvious that for such uses the pneumatic tyres would not serve the purpose

§2 Railways. The important railway lines in Gujarat are. broad-gauge the Pardi-Ahmedabad-Viramgam-Kharaghoda, Tapti Valley, Baroda-Godhra-Dohad, Anand-Godhra and Boriavi-Vadatal, metre-gauge Ahmedabad-Dholka-Dhandhuka, Ahmedabad-Mehsana and Ahmedabad-Himatnagar-Brahmakheda, and narrow-gauge Billimora-Kala Amba, Kosamba-Zankhvav, Ankleswar-Rajpipla, Broach-Jambusar-Kavi, Samni-Dehej, Jambusar-Vishwamitri-Sankheda, Miyagam-Dabhoi, Nadiad-Kapadvanj, Champaner-Shivrajpur and Godhra-Lonavla It is not possible to state the mileage of railways in British Gujarat separately as both the B B & C I, the Baroda State Railways and other lines run by private companies serve for the most part the Baroda State and British territories in Gujarat simultaneously Gujarat taken as a whole has approximately 1,475 miles of railways The area and population of Gujarat comprising five British districts and the Navsari, Baroda, Mehana and Pethapur divisions are 17,117 miles and 54,57,387 individuals respectively Thus there are 8.5 miles of railways per every 100 square miles of area and about quarter mile for every 1,000 of the population If the area and population of the small Gujarat States also served by the railways are included these proportions would be further reduced Except between Pardi and Baroda and Barejadi and Ahmedabad the traffic on the rest of the railway is run on single lines It will be apparent from the statistics given above that the railway mileage is inadequate for Gujarat Besides, as most of the villages in the interior are remote from the railways and have no good roads linking them with the railway stations, the rural population has not been able to fully utilize this means of transport Further, the paramount need of the rural areas today is that the means of transport should be sufficiently cheap as to be within the reach of the farmers The varieties of gauges, the necessity of constructing numerous small and big bridges over the many streams and rivers that intercept the railway lines and the

soft soil of Gujarat, all these besides hindering rapid movement considerably add to the costs of maintenance, repairs, terminal charges, etc. In addition, a considerable muleage of road especially in charge of the P W D runs directly or indirectly in competition with railways, particularly in regard to passenger traffic, and is thus a duplication. It has been suggested that in view of the difficulties of constructing metalled roads in the rural areas for want of cobble-stone and the existence of larger number of rivers and streams, efforts should be made to overcome the inadequacy regarding communications by constructing feeder lines not as commercial propositions but as an agricultural need¹. It should be remembered in this connexion that, apart from the uncertainty of sufficient traffic which may not warrant such small projects, the difficulties connected with road building would persist in respect of railways also. Because of this the railways are hardly likely to prove an attractive alternative.

From the point of view of agriculture, railway construction has been responsible for damaging considerable areas of cultivated lands. The high embankments of the railway track without sufficient water passages seriously obstruct the natural drainage of the land which results in water-logging of considerable areas during the monsoon and damage to the standing crops². During 1940, 1944 and 1945 tracks over several furlongs were washed away, mainly in the Surat district. At the time of heavy rainfall faulty construction had meant dislocation of traffic for days on end to the railways.

§3 **Water Transport.** Internal and coastal water transport in Gujarat played an important part in the past and was instrumental in carrying a fairly good volume of trade. The Tapti and the Narbada rivers particularly were navigable over considerable lengths of their courses and Surat and Broach on their banks were very important ports. The small boats which used to ply in the Tapti brought vegetables and fruits from the villages on the banks within one mile from the city and about as far as half a mile in the interior from the banks to Surat market³. Both the rivers have silted up. Their beds become shallow in summer and their flow is violent and assumes considerable velocity during the

¹ *Report of the Royal Commission on Agriculture in India*, Vol II, Part I, p 24.

² *Revision Survey Settlement, Olpad Taluka*, p 60.

³ *Revision Survey Settlement, Chorasi Taluka*, pp 5 and 35.

monsoon Thus their importance from the point of view of navigation has been greatly reduced The banks of the Tapti are high and narrow in the upper course which makes it unsuitable for navigation If, however, a scheme of canal irrigation is formulated it would, beside helping garden cultivation in the region of its lower course, aid the transport of timber and firewood from the Mandvi forests and thus open the jungles of the taluka and provide means of livelihood to many labourers in that area¹ The rivers Mahi and Dhadher are, except for a few miles from the sea, not navigable for the same reason and on account of the adhesive clay on their banks For one or more reasons shown above, the Sabarmati and other rivers in Gujarat cannot serve as trade arteries The process of silting up has assumed unusual proportions in respect of the Sabarmati with the result that during the monsoon there are floods which cause extensive damage many times, while in the dry seasons, there is only a thin flow of water The other important ports on the sea coast and the river banks are Bulsar (Bhagda Bunder), Billimora, Navsari, Maroli, Dandi, Matwad and Bhagwa in Surat, Hansot, Sarod, Sajod, Tankaria and Jambusar in Broach, Cambay near Kaira and Dhollera and Ghogha in Ahmedabad Statistics of trade through these ports are not maintained However, the value of trade at Dhollera, Cambay, Broach, Surat and Bulsar amounted to a little over 171 lakhs in 1936-7 out of which the share of Broach alone came to nearly Rs 88 lakhs² The annual value of trade of Dhollera, Broach, Surat and Bulsar fell from Rs 164 lakhs for the quinquennial ending 1877-8 to the average of Rs 144 lakhs for the five years ending 1936-7³ Thus at one time these ports played an important part in the trade of Gujarat not only among themselves but also with the ports of other parts of the country The exclusive attention on the development of the port of Bombay and the construction of railways with the object to feed it meant the total neglect of these important centres of inland trade Even today Bhagda Bunder, Billimora and Navsari are useful ports, the first two are important for trade in timber and for exporting large quantities of mangoes, both *desi* and *alphonso*, during the mango seasons to Kathiawar

¹ *Revision Survey Settlement, Mandvi Taluka*, p 40

² *Report of the Bombay Minor Ports Inquiry Committee*, p 150 and the *Cambay State Administration Report, 1936-7*

³ *Report of the Bombay Minor Ports Inquiry Committee*, pp 156-7

and Bombay. If the beds of the watercourses at these places are deepened and small harbours built they will go a long way in making up for the lack of good roads and railway communications.

To sum up, the marketing organization for the disposal of farmers' crops is highly defective. As a result, there is a great spread between the producer's and the consumer's prices of agricultural produce. This defect can be largely remedied by proper grading, standardization, warehousing facilities and by the formation of co-operative sale societies. Communication facilities are an integral part of proper marketing organization. The most important of these are roads which are grossly inadequate and in a bad state. Provision for a large extension in roads as would be passable throughout the year is highly essential.

CHAPTER X

WAR AND AGRICULTURE

THE conditions created by the last war wrought far-reaching changes on Indian agriculture and the life of the rural classes. In the first phase of the war, especially after the declaration of hostilities by Japan, farm prices rose and the prices of industrial commodities and the cost of cultivation did not rise *pari passu*. High net cash returns that accrued to a large section of the farmers above subsistence level enabled them to clear previous debts or go in for investments, especially land, the prices of which also rose by leaps and bounds as a result of demand for it from all directions. In the latter phases of the war, however, conditions changed. Prices of cotton and oilseeds went down. The rigid control over production, movements, prices and disposal of important food-grains that was inaugurated to meet the food crisis in the later phase of the war arrested, and in some cases reversed, the course of prices. At the same time, the prices of farming requisites and implements and domestic requirements rose steeply and many items among the former became practically unavailable. As an outcome of this, the small initial gains of many cultivators depleted heavily. The heavy rains and floods, especially during 1944 and 1945, caused widespread damage to crops and property and added to the difficulties of the farmers. Only the irrigated crops, more particularly vegetables and root crops, continued to be profitable till the very end of hostilities so that war brought continued prosperity to the farmers engaged in their cultivation. The landless labourers and the rural artisans did not see favourable times throughout the period of the holocaust and their plight was unenviable. The great changes the course of the last war brought about subjected agricultural economy to a severe strain and many long-established agricultural practices came to be revised. The scarcity of certain essentials of life like sugar, kerosene, cloth, etc., materially affected the ways and habits of the rural population. Food shortage and rationing which followed brought about equally great changes. All these factors taken together gave violent jerks and shocks to the established standards and consumption habits. No detailed surveys have

been undertaken so far, but our observations lead us to believe that inroads were made into the already low nutrition of the rural populace and in not a few instances these resulted in deficiency diseases and epidemics which left the people in the villages heavily depleted in vitality. It will not be an exaggeration to state that it will take considerable time before normal pre-war conditions are restored both in the economic and social fields.

WAR AND THE FARMER

We shall first take up the discussion of the conditions of the farmer during the war, the changes in his gross receipts, cost of production, cost of living, etc.

§1 **Prices of Important Crops.** The tables on pp 282-4 give the pre-war prices of important agricultural commodities and those which prevailed in 1944 and 1945 along with percentage increases in them during the period of the war.

An examination of the tables will reveal that the rise in the prices of different agricultural products during 1939-45 ranged from 133 to as high as 700 per cent, but it may roughly be put down at round about 295 per cent on an average. The prices of cotton and groundnuts roughly rose by about 115 per cent during 1939 to 1944. While the prices of groundnuts experienced a continuous but slow rise till 1944 and became steady for the rest of the period of the war, cotton prices passed through wide fluctuations. From Rs 100 to Rs 125 per *bhar* in 1938-9 the rate rose to Rs 300 to Rs 350 in 1943, but fell to Rs 200 to Rs 250 in 1944 and recovered to Rs 250 to Rs 280 in 1945. Tobacco prices rose by about 155 per cent by 1944. Thereafter, there was a spurt and in 1945 they attained the unprecedented level of 375 per cent over that in 1939 on an average. One of the important contributory causes for this phenomenal rise in the prices of tobacco was the imposition of excise duty. These inflated prices, therefore, do not reflect the increased realizations of the tobacco growers to the extent to which this factor enters into them. The prices of food crops comprising wheat, *jowar*, *bajra*, paddy and maize rose by about 200 per cent during the years 1939 to 1945. They stood at the same levels throughout this period as they were controlled by the Government. To prevent black markets from developing in them restrictions were imposed on their movements and private trading. The prices of irrigated crops like sugarcane, *gur* and vegetables continued to

NON-FOOD CROPS

Commodity	Unit	Prices in 1938-9	Prices in 1944	Prices in 1945	Percentage increase between 1938-9 and 1945
Cotton . . .	<i>Bhar</i> ¹	Rs a 100 to 125	Rs a 200 to 250	Rs a 250 to 280	140
Groundnuts .	Surti maund ²	1 8 to 2 0	3 8 to 3 12	3 12	133
Sugarcane .	Ton	11 0	60 0	60 0	445
<i>Gur</i> . . .	Surti maund	1 4 to 1 8	7 0 to 7 8	7 0	405
Tobacco .					
Virginia . . .	"	12 0	22 0	40 0 to 45 0	250
<i>Des</i> . . .	"	5 8	18 0	30 0 to * 35 0	500

¹ *Bhar*=24 Surti maunds approximately

² One ton=56 Surti maunds approximately=28 Bengali maunds approximately

* Unirrigated tobacco raised on *goradu* soils and on *bhatha* lands on the banks and beds of rivers fetched prices ranging from Rs 50 to Rs 55 per maund.

FOOD CROPS

Commodity	Unit	Prices in 1938-9		Prices in 1944		Prices in 1945		Percentage increase, 1938-9 and 1945
		Rs	a	Rs	a	Rs	a	
Wheat . . .	Surti maund	1 12	to	6 0	to	6 0	to	225
Jowar . . .	"	2 4		7 0		7 0		225
Bayra . . .	"	1 8		4 8	to	4 8	to	200
Paddy		1 8		5 8		5 8		
Laskara				4 8	to	4 8	to	
Kodam .	"	1 4		5 0		5 0		240
Kada	"	1 8		4 4		4 4		215
Trepankhala	"	0 12	to	4 12		4 12		..
Sutusal	"	1 0		3 12		3 12		225
Vankvel	"	2 4		5 4		5 4		225
Maize	"	2 0	to	5 4		5 4		180
Bavto	"	2 4		4 0		4 0		300
	"	1 4		3 8		3 8		
	"	1 0	to	4 0		4 0		
	"	1 8		4 0		4 0		
	"	1 0		4 0		4 0		

FRUITS, VEGETABLES AND DAIRY PRODUCTS

Commodity	Unit	Prices in 1938-9	Prices in 1944	Prices in 1945	Percentage increase, 1938-9 to 1945
<i>Alphonso</i> mangoes	Surti maund	Rs a 3 0 to 3 4	Rs a 11 0 to 14 0	Rs a 8 0	166 0
<i>Des</i> mangoes	"	1 4 to 1 8	4 0	1 8	
Elephantfoot (<i>Suan</i>)	<i>Khandi</i> ¹	15 0	80 0	95 0	533 3
<i>Ratalu</i>	Surti maund	1 8	4 0	5 0	300
Brinjal	"	0 12	4 0	6 0	700
Other vegetables (ladies' fingers, etc)	"	1 0	4 0	5 0	400
Milk	"	2 8	7 8 to 8 12	7 8	200
Ghee	"	25 0	65 0 to 75 0	90 0 to 100 0	300

¹ One *khandi* = 20 Surti maunds approximately

mount up unchecked and stood in 1945 at 475 per cent above the pre-war level. Only the prices of mangoes actually fell in 1945 after having risen to more than 275 per cent by 1944 over those of 1939. In respect of a few varieties they even returned to the pre-war normal in 1945. The main cause for this reversal in the trends of prices of mangoes was the difficulty of disposal mainly due to lack of transport facilities and late maturing crop. It may be stated on the whole that while the cultivators of cotton, groundnuts and foodgrains earned high gross returns in the early period of the war, they lost ground in the later years. On the other hand, growers of tobacco, irrigated crops and garden produce, except mangoes, obtained progressively high prices during the entire war period. The vast majority of farmers in Gujarat, however, cultivate cotton and one or more of the major cereals and it is not necessary to labour the point to indicate that they were not in a very favourable position.

§2 **Procurement of Foodgrains** To make their price control policy already referred to a success, the Government resorted to procuring foodgrains from farmers in 1943 and 1944. Wheat, *jowar*, *bajra*, maize, paddy and *barli* were the cereals procured according as one or more of them were raised over fairly large area in the district or districts concerned. It was claimed that the quantity to be procured from the farmers in this way was to be only a small fraction of their total produce so that the Government would obtain supplies of grains partly for distribution in the urban areas and to the needy rural populace but mainly as a reserve to prevent possible profiteering by local traders without at the same time encroaching upon the farmer's legitimate usual requirements for personal consumption and for other payments and expenses in kind. The least contribution by the farmers was to be 10 per cent of their produce in respect of important millets in different districts. In view of the great shortage of rice, however, the Government intended to obtain 25 per cent of its production with a view to aid a fair distribution of the commodity. It was further stated that from regions normally exporting millets the Government would endeavour to buy, in addition to 10 per cent contribution, all the surplus above the needs of the district. It seems that in places where farmers produced foodgrains essentially for home consumption and meeting similar other domestic requirements, only 10 per cent of

the produce was procured In other regions, the proportion demanded by the Government was from 20 to 25 per cent It should be noted here that if cultivation was by tenants on crop-share, the contribution on that land was to be shared by the tenant and the landlord in proportion to their shares in the produce.

The village officers and the circle inspector ascertained the yield of the crop of the village to be brought under the scheme by the *annawari* method On the basis of the yield so arrived at and the area under the crop in the village as indicated by the village records, the collective contribution by the village was decided upon The individual shares of the farmers to this contribution were left to be decided by the village officers The collective contributions officially decided upon to be levied on villages, however, were not final and the figures were reduced in respect of villages inhabited by farmers of advanced classes who could bargain effectively¹

By prohibiting purchase and sale of important cereals by the public except for small quantities in the village itself and by banning their inter-village movements, the Government not only brought an indirect pressure to bear on the farmers to part with their saleable surplus in their favour, but could also make procurement more effective, saving at the same time, a good deal of trouble connected with the preparations for the scheme In the *Bhal* tract of Ahmedabad, for instance, where wheat is an important money crop, the Government could draw a great proportion of the crop of 1943 with the help of these measures and could, at the same time, dispense with the elaborate preliminaries connected with procurement

Farmers were required to deliver the grains at Government godowns maintained at taluka towns and important village centres In Kaira the co-operative stores conducted by the Khedut Office at Nadiad were entrusted with the work of receiving the grains offered by the peasantry

(i) *Defects* The drawbacks of the procurement policy may be grouped under the main heads of (a) arbitrary ways followed in some places to acquire grains, (b) employment of compulsion, (c) faulty assessment of yields, (d) the excessive contribution

¹ Village Pipalgabhan, Chikhli taluka, Surat district, for instance was required to contribute 3,330 maunds of paddy but on account of the superior bargaining capacity of the farmers the figure was subsequently brought down to 1,050 maunds

demanding from the farmers, and (e) the unsatisfactory prices offered for the cultivator's produce

In addition to the procedure of procuring grains already described, many other less systematic courses were adopted towards the same end. In some cases the farmers were asked to state the quantities produced and on the basis of the figures supplied by them their contributions were fixed¹. Under this method producers of small quantities were exempted. Another method resorted to was of levying a grain contribution per *bigha* sown with the cereal concerned². In a few villages the quantity of Government demand was based on land revenue³.

Although procurement was voluntary in theory in its actual working farmers were subjected to considerable pressure. One of the official devices of exerting pressure on the farmers to force them to part with grains was the threat that if they did not surrender the quantity or quantities of cereal or cereals required of them, the quotas of sugar and kerosene to the villages in question would be discontinued. As a general rule, coercive methods were employed mainly in respect of the ignorant and backward classes of farmers. Many farmers belonging to these classes had to contribute several times over even after the quantities falling to their share had been delivered. The Kanbi and Koli farmers of Surat furnish instances of a few classes who were subjected to such compulsion. Physical force was also exercised in some cases as, for instance, in parts of Broach district, to procure grains from farmers.

These facts, however, should not lead one to believe that everywhere procurement operations were carried out strictly. Where the peasantry was composed of advanced classes care was taken to use persuasion only to induce farmers to part with their stocks. The farmers who were bold enough to offer resistance escaped lightly. Some farmers in Broach district who promised to sell certain quantities to the Government never did so and escaped procurement altogether. Like Broach, in Kaira district also some farmers refused to surrender their shares of the contribution and nothing could be done to them. The Patidar farmers of Kaira and Broach provide instances of those who escaped Government demand for grains.

¹ In respect of *jowar* in some village of Broach district.

² and ³ Villages of Hansot mahal in Broach district furnish instances of both the types.

Most of the farmers who were examined found fault with the *annawari* method of calculating the yields. They stated that the yields and the production of crops arrived at according to this procedure were much above those actually realized by them. Before discussing the question of yields, it should be made clear that in view of the favourable seasons both the food and non-food crops except fruits and vegetables in 1944 were over three times those in 1939 and about one and a half times those in 1942-3. Moreover, in so far as the *annawari* valuation presumes yields of crops which are more or less arbitrary today as they are based on crop-cutting experiments carried out long back in the past, the defect inherent in the method continued to be perpetuated and no new wrong seems to have been perpetrated in this regard. But apart from this, it should be said that the yields of crops of various parts of Gujarat arrived at in accordance with this procedure were both over- as well as under-estimated. In the Olpad and the Chorasī and Bardoli talukas of Surat, for instance, while yields of *jowar* ascertained officially for purposes of procurement were 28 and 20 ordinary maunds respectively, according to the information supplied by the farmers, the actual produce per acre varied from 16 to 20 maunds. In the Panch Mahals district also the yield of maize was assessed at 400 lbs per acre which was an over-estimate¹. The yield of wheat of seven maunds per acre in Broach that was arrived at for the purposes of procurement was similarly much above that actually realized². On the other hand, in the villages in Surat where cultivation of paddy is important, it was found that where the actual yields of the crop were from 25 to 30 maunds per acre, the figure arrived at by *annawari* calculations was 21 maunds. But the errors have shown themselves more glaringly where there were over-estimates than in cases of under-estimates. Cultivation by small farmers with limited means is inefficient and hence the yields obtained by them are bound to be appreciably lower than those obtained by the enlightened, progressive and resourceful farmers and meagre in comparison with the official estimates. Thus, when yields were over-estimated, it is the small peasant who suffered the most. In cases of under-estimates, it was the efficient farmer who benefited invariably, while the advantage

¹ The figure relates to the Mirakhedi village in the Jhalod taluka.

² The information is about Hansot, Hansot mahal, Broach district.

of the error hardly reached the poor farmer for reasons already stated. Thus when there had been an over-estimate of the yield of a crop a percentage of which was intended to be procured, the small farmers who obtain low yields both as compared with efficient cultivators and the official estimates, were required to part with quantities in excess of those they should have sold to the Government consistent with the yields of their crops

It is customary to associate prominent farmers with the procedure of arriving at yields of crops by *annawari* calculations. In the Panch Mahals the complaint was that while formerly the officials took prominent farmers from villages into confidence when carrying out the work, the practice was abandoned in 1943-4 and the Government servants concerned put through the *annawari* themselves. The truth, however, is that even in normal times only the enlightened and resourceful farmers are invited to co-operate in the assessment of crop yields and are able to assert themselves to some extent. The backward farmers who could hardly understand the *annawari* procedure had to rest content with accepting the decisions of the officials in this regard. The same procedure was followed by the officials under war-time emergencies and there could thus hardly be any grievance from the farmers on this count.

The Government procurement adversely affected those farmers who produced the grains covered by the scheme in just sufficient quantities to meet their domestic requirements and for paying wages to the labourers in kind. Except for the extreme south, farmers in the rest of Gujarat grow paddy only enough for their family needs. Climatic conditions are not favourable to a large area being devoted to rice cultivation. Even in villages of South Gujarat with lands predominantly under garden cultivation, farmers raise enough rice for their requirements and payment to labour. Some of the farmers in such villages purchase appreciably large quantities of paddy to pay to the field labourers in kind. In villages where paddy is a money crop, a small area is devoted to the cultivation of *jowar* which would serve as food for the family. Besides, the yield of *jowar* in this region is comparatively low. Similarly farmers have no appreciable marketable surpluses of *baajri* in Kaira and Ahmedabad, *jowar* in Ahmedabad and wheat in the Panch Mahals, to mention only a few instances. The small cultivators in Gujarat—and they compose the bulk of

the peasantry of the land—produce hardly enough grains they require in the home. Not a few of them cultivate on crop share and some on cash rental. They fall short of cereals for consumption in the monsoon and borrow them from big farmers or money-lenders on condition of repaying one and a quarter to one and a half times the quantity borrowed at the next harvest. Under these circumstances, a demand of even 10 per cent of the produce was bound to result in great hardship. Over-estimation of yield aggravated the situation in some cases. In the case of small farmers in Kaira and the poor Bhil farmers of the Panch Mahals, the contributions of *baṛi* and maize respectively demanded from them exceeded their actual production and they were forced to purchase or borrow from others to meet the Government demand. A similar situation arose with regard to some farmers in the Dholka taluka of Ahmedabad and Chikhli taluka of Surat. They had to purchase paddy in the black market for reselling to Government at a much lower price.

On the other hand, maize in the Panch Mahals, wheat in Ahmedabad, Broach and the Olpad taluka of Surat and *jowar* in the northern talukas of Surat and the Broach district are money crops and a great part of their produce is intended for sale. The Government demand in their case took away only a fraction of the saleable surplus. In fact, many farmers sold to the Government considerably in excess of their quotas, as in view of Government regulations in regard to prices, movements and private trading in foodgrains, they found it difficult to dispose of their surplus elsewhere. Even in regions where, as a rule, only enough cereals are raised to meet the farmers' requirements, there are some farmers who normally have some surplus for the market. In the absence of any other agency to sell, they had also to part with all their excess grains in favour of the Government.

The farmers were also called upon to contribute in excess of what was legitimately due from them in another way. Considerable area of fields is covered by border lands on which grass grows. This is particularly true with regard to rice beds where the bunds on the borders cover a fair proportion of the total area of the fields. Thus the actual area under cultivation would be less than that entered in the village records where no distinction is made between the waste border lands

and the area actually cultivated, for the area covered by bunds and border wastes is recorded as ploughed. Thus the Government demand of foodgrains came to be based on an area of land in excess of that actually under foodcrops and some farmers were required in this way to part with a larger quantity of cereal or cereals.

The prices of foodgrains for 1944 and 1945 mentioned in the general statement of prices of crops realized by farmers in 1938-9, 1944 and 1945 given earlier were those generally offered by the Government under procurement and compulsory levy during 1943, 1944 and 1945. It is, however, necessary to refer to different prices that were offered by the Government for *jowar* from place to place as well as at different times in 1944. The highest price for *jowar* was offered in the Surat district (Rs 5-8 per maund) and the lowest in Ahmedabad (Rs 4-6 per maund) and the Hansot mahal of Broach (Rs 4-2 per maund), while the Broach district north of the river Narbada stood midway between the two (Rs 4-8 per maund) in this regard. In the Olpad taluka of the Surat district, the price offered for *jowar* was brought down from Rs 5-8 in January 1944 to Rs 4-6 in March of the same year and the complaint of the farmer in this connexion appeared to be legitimate. It was also contended by the farmers of the Ankleswar taluka and the Hansot mahal of the Broach district that, whereas the price paid for *jowar* in the Olpad taluka of Surat in the neighbourhood was Rs 5-8 per maund, it was only Rs 4-2 for the same quantity in that area, although the quality of grain grown at both the places was more or less similar.

Throughout Gujarat farmers complained that the prices offered by the Government were unsatisfactory in view of the costs of cultivation and living that had risen excessively during the war. It was also argued by some farmers, and perhaps rightly, that the grain prices fixed by the Government would have been satisfactory had some arrangements been made, at the same time, to supply them with their requirements at controlled rates. This argument acquires considerable force when taken in conjunction with the difficulties experienced by the farmers in obtaining articles of daily necessity at reasonable prices and the scarcity of certain materials for cultivation like iron and iron implements. The farmers of the Panch Mahals argued that the maximum price of Rs 3-8 per maund of maize when compared with the price of

Rs 7 to Rs 8 for the same quality that ruled during the summer and monsoon of 1943, appeared highly unsatisfactory and for which farmers could hardly afford to part with their produce

One more argument advanced to bring out the unsatisfactory nature of the prices offered by the Government was that the farmers who purchased seeds in 1943 had to pay high prices while those offered under procurement in 1944 were much lower in comparison. Particularly in the Panch Mahals, on account of the almost complete failure of the maize crop in 1943 a majority of the farmers had to purchase seeds at Rs 7 to Rs 8 per maund to put through sowing operations that year. Due to wildly fluctuating prices and uncertainty regarding supply, people were reluctant to lend in kind. Those farmers who had surpluses of maize to sell in 1943 were fortunate to reap these high prices. It may be argued that ordinarily seeds do not constitute an important item of the cost of cultivation and only when due to excessive or irregular rain or such unfavourable factors sowings have to be carried out twice or three times over that the expenditure under seeds is considerable. Over very great areas of Gujarat seasons were favourable during 1943 and 1944 and, therefore, the item of cost did not assume any serious proportion. This, however, might have been true of a section of the peasantry. But in the case of most of the farmers seeds absorbed, as they always do, an important proportion of the cash resources. The bulk of the farmers who are poor and have limited means purchase or borrow grains almost every year on condition to repay with interest in kind at the next harvest. With them seeds constitute an important item of the cost of cultivation.

During discussions, the farmers in the Surat district compared prices in the black market with those offered by the Government with a view to bringing out prominently the unsatisfactory nature of the latter. They stated that ceiling prices of *jowar* and paddy of *kada* variety did not compare favourably with Rs 8 to Rs 10 and Rs 7 per maund at which both the cereals respectively changed hands secretly. To lend strength to this argument it was added that while Government sold barley in the fair price shops both in villages and towns at Rs 4-8 a maund for which people had no liking and which was not their food, they offered only Rs 3-12 a maund for *kada* variety of paddy which beside being a staple food of the populace was scarce and in heavy demand.

It would not be possible to summarily dismiss all the popular arguments. Some of them require to be properly examined. It is common knowledge that the farmers dispose of their produce usually at harvest time and it would be proper, therefore, to compare the ceiling prices with those prevailing at harvest time during 1942-3 because it is the harvest prices that serve as proper index of the farmers' cash returns from the sales of their produce :

Commodity	Price per maund
Wheat	
White	Rs 8 to Rs 10
Red	Rs 6 to Rs 7-4
Jowar	Rs 4 to Rs 5-8
Bajri	Rs 4-8
Maize	Rs 3-8
Paddy	
Laskari	Rs 3-12
Kada and Vankvel	Rs 3-8
Kolam	Rs 5

It would be clear that except for wheat and the *kolam* variety of paddy, the prices fixed by Government for other foodgrains do not compare unfavourably with those that prevailed at harvest time in 1942-3. Prices rose steeply no doubt, later in 1942-3, but their benefit was reaped by merchants and hoarders and not by primary producers. In regard to the costs of cultivation and living, the rise was gradual till 1942-3, and although there was a steep upward movement in 1943-4, both the cost of cultivation and cost of living respectively stood at nearly 200 per cent above the pre-war level. It would be clear from the figures of pre-war prices and those offered by the Government under procurement that the rates fixed by Government and the rise in the farmer's costs were not considerably out of harmony, at least in so far as they relate to the harvests of 1943 and early 1944.

(ii) *Procurement in 1944-5* In 1944-5 the application of this method of acquiring cereals was restricted to the paddy-growing region comprising the three talukas of Pardi, Bulsar and Chikhli in Surat. Attempts were made to further systematize procurement. Crop-cutting experiments were carried out in representative villages to assess the actual yields of paddy with a view to avoiding the injustice that was alleged to have been

done in the previous year when the *annawari* method was employed to determine crop yields and to decide, in turn, upon the Government's demand from farmers. For the purpose of determining contributions *kyaris* were grouped into 'new' and 'old' rice lands according as they were under the plough for short or long time because the yield from the former is supposed to be comparatively higher than from the latter type in lieu of their relative virginity. Some of the farmers who were associated with crop-cutting experiments stated that there was nothing to say against the procedure in principle. The real defect, they averred, lay with the way in which the crop-cutting experiments were conducted. In the first place, while the officials took into consideration the actual area under the crop of a rice bed to arrive at the yield, on the other hand, to find out the area of the holding of a particular farmer under paddy for deciding his total produce and accordingly his contribution, the gross area of each paddy field as shown in the village *pahani* and made up of the actual ploughed land, wastes on its borders in many instances and the area covered by embankments, was taken into account. As the last two categories of land, especially the bunds on all four sides of rice beds cover an appreciable area of each field, there is bound to be considerable discrepancy between the actual crop and one that is calculated on the basis of crop-cutting experiments and gross area of rice beds. Besides, instead of selecting a number of fields representing all grades of fertility in an area and deciding upon the average yield of them, only one of the many varieties of fields was chosen and the crop-cutting experiment was conducted in respect of it alone. Instances have not been rare where only a few *vasas* of rice beds with standing crop were measured out and on the basis of the quantity of paddy on that small piece the yield per acre was arrived at. The allowance of two seers per maund that was made for moisture in the husks at the time of experiment is inadequate because the difference in weight of paddy immediately after cutting and when it is fit for long storage after threshing and winnowing is considerably greater. The selection of supposedly representative villages for crop-cutting experiments was also defective. The grouping of villages in a taluka for the purposes of settlement and revision on the basis of similarity in soil and climate and agricultural conditions has not been found wholly

scientific In spite of this, however, if one village from each of the settlement groups had been selected, the degree of error in assessing yields would have been minimized to a fairly good extent

The elaborate procedure was found to be wanting in many respects The actual yields turned out to be much lower than those arrived at with the help of experiments. The classification of *kyaris* into 'old' and 'new' had to be abandoned The quantities originally decided upon to be acquired had to be lowered subsequently In spite of this the ultimate result was that the farmers were required to surrender considerably larger stocks of paddy than they did the previous year An impression was thus created that the detailed procedure adopted worked to the greater advantage of the Government as it yielded them much larger stocks than those that could be procured under the arrangement applied in 1943 Looking to the steep upward trend the costs on farming and the farmer's domestic requirements, particularly the former, assumed during the last two years of the war, the same foodgrains prices offered by the Government in 1943, 1944 and 1945 also became less remunerative This can be noted from the statements of the costs of cultivation and living and the prices of foodgrains for these years given elsewhere

(iii) *Grain Levy*¹ Under the scheme of procurement, evasions by farmers to sell the quantities of their shares and arbitrary reductions in the Government's grain demands were not infrequent The total contribution was also inequitably distributed so that the large producers and landlords escaped lightly while the small cultivator had to part with an unduly heavy proportion of his produce Black markets in grain also developed on a wide scale Corruption crept in the official machinery entrusted with the work of collecting cereals To remedy these drawbacks, a levy scheme was adopted Under it the shares of individual farmers were graded so that, on the one hand, no one retained less than the minimum requirements and, on the other, a higher share was demanded of the bigger holder. Even after the cultivators had parted with the levies, they were likely to be left with quantities in excess of their normal

¹ The practice of procuring foodgrains through procurement and levy was discontinued and all restrictions on their prices and movements were removed in December 1947

requirements which might find their way into the black market. To prevent this, movements of grains from village to village and taluka to taluka had been prohibited, and except for sales by individuals of small quantities for consumption within the village, their monopoly purchase by the Government had been established with a guarantee to purchase foodgrains in any quantity offered for sale at any time of the year.

To assess the total produce on all individual holdings and then the holders' requirements to arrive at their surplus would be a job beyond the machinery of the present Government. It was, therefore, decided to find out, according to the *annawari* method, the average yield of important cereals and pulses in a settlement group which was the unit of area chosen for application of levy on a uniform scale. With the help of the outturn so arrived at and the area under food crops in the territory as interpreted in accordance with the Growth of Food Crops Act the aggregate production of foodgrains in the area was decided upon. As, however, the levy was to be related to assessment so as to facilitate quick and easy collections, a table was prepared mentioning the quantities of grain levy against the amounts of land revenue graded in such a way that the higher the land revenue (which in turn signifies a larger holding, more area under cereals and pulses according to the Growth of Food Crops Act and a larger production of food grains), the greater was the quantity of foodgrains that had to be surrendered. After a certain figure of assessment was reached, however, the increase in the quantity to be given up for every additional rupee of land revenue became uniform. Care was taken to make these tables reflect actual conditions by taking into account the proportion of area under food crops to the total assessed area of the taluka, the difference in the quality of the soils and rates of assessment in various settlement groups. Farmers whose production of foodgrains was at or below the minimum quantity of 27.5 Bengali maunds were exempted from the operation of the levy. It had also been stipulated that tenants cultivating lands on crop share and the landlords concerned were to bear the grain demand in proportion to their shares in the produce so that the actual tillers' stocks left after meeting the levy might not be depleted below the minimum requirements for the year.

The levy scheme suffered from grave defects. Despite the

elaborate procedure adopted and all conceivable precautions taken in basing the levy demand on assessment, the basis of the scheme itself was wrong in view of the fact that besides fertility the rate of revenue demand on a field is decided upon after taking into consideration a host of other factors like facilities of communications, distance of the field from markets and village site, land values and rentals. As productivity of soil is not the only factor that decides the level of assessment, the actual yields of fields have only a casual connexion with land revenue demands on them. During the discussion of the Growth of Food Crops Act, it will be noted that grasslands and uncultivated wastes had not been excluded in deciding the proportion of holding that should be under food crops. In spite of the hurried attempts at a later stage to correct this error, it persisted in a large number of instances. The provision exempting producers of 27.5 Bengal maunds or less of grains which were presumed to be required for consumption by an average family of five persons did not take into account households having more members than the average figure. Full allowance also was not made of the food-grains required to pay labourers in kind, which is a widespread practice, and for seeds. We have dealt before with the questions of *annawari* method and crop-cutting experiments that are commonly employed to assess crop yields and have pointed out that as a result of a number of defects in these procedures the results achieved rarely squared with facts, particularly in respect of the former device. As the main basis of the levy scheme was the average yield of food crops assessed according to the *annawari* calculations it was certain that a grave degree of error had crept into the scheme. This inaccuracy was heightened when the levy tables based on crop *annawari* of *kharif* harvests were applied to *rabi* crops because larger quantities of seeds are required while the yields are lower in the latter type of farming than in the former. Further, villages of a taluka are sorted out in many settlement groups according to similarity in soils, crops and agricultural conditions. A considerable degree of inaccuracy would have been avoided had an average yield been calculated for each settlement group and distinct levy tables prepared for villages comprising it, instead of taking the whole of the taluka as the unit of area for the purposes of the levy as was the case. Mistakes of applying tables relating to

comparatively fertile tracts to backward areas, where besides the soil being of low quality, farming was inefficient and yielded comparatively small returns were not absent, as in the case of the Modasa mahal of Ahmedabad to which the table relating to the Daskroi taluka of the same district was applied. The flaw, however, was later rectified. For the year 1945-6, however, soils of each taluka were grouped into two to three classes and different scales were applied to each of them. This remedied the defect partially but if the process had been carried further to each settlement group, more satisfactory results would have followed. These drawbacks and complaints mentioned had been acknowledged even by the Government. On a dispassionate examination, the Government reduced the levy demand in Kaira, Ahmedabad and in a few talukas of Surat. For instance, the gram levy was reduced by as much as 10 to 15 per cent in the case of Chorasī and Olpad talukas of Surat. That the Government demand was at times excessive and deprived many farmers of the minimum required quantities of grains could also be shown from the instances recorded during our field investigation. A farmer of one of the villages in the Olpad taluka of Surat reported that while his production of cereals and pulses aggregated to about 250 maunds, the actual levy that fell to his share to be met from rice, wheat and *jowar* was 300 maunds¹. It is true that he surrendered only 140 maunds and not the full quantity demanded. No prosecution was launched or coercive methods were employed against him as he belonged to one of the advanced classes. The same type of inequity was perpetrated on many small farmers of the backward classes, many of whom had to purchase *jowar* at Rs 4-12 per maund from the cultivators of neighbouring villages and resell to Government at the rate of Rs 4-6 in fulfilment of the levy demand on pain of being prosecuted in case of failure to do so. Such exactions took place perhaps because there was no arrangement to redress grievances of individuals or village or villages where yields might be unusually low or had partial or total crop failures. In several instances, besides, agricultural production would be low in comparison, for want of opportunities in the shape of adequate capital, sufficient and efficient agricultural stocks and implements,

¹ The information relates to Dehen village where the main crops are rice, wheat, *jowar* and pulses such as grams, peas, etc.

unfavourable soil and climatic conditions, etc. These factors being largely beyond the control of individual farmers, deserved to be carefully examined by the authorities and scope ought to have been left for sufficient latitude to be exercised to avoid excessive levy demands being made from the unfortunate sections of the peasantry.

Other complaints against the scheme related more or less to details. It had been heard, mainly in North and Middle Gujarat, that although total production of food was taken into account in fixing the levy demand, farmers were not allowed, even within the limited option of 20 per cent, to meet it in pulses with the result that they were required to part with disproportionately large quantities of the main cereal or cereals. In the Olpad, Chorasi, Bardoli and Jalalpore talukas of Surat pulses were not accepted at all and the grain levy had to be met exclusively from wheat, *jowar* and paddy. Besides, in the Olpad taluka and parts of Chorasi, Government refused even to accept *jowar*, which is a scheduled food crop, in discharge of levy for 1945-6 with the result that the farmers had to meet it from paddy and wheat. As production of these crops is limited in these areas farmers were put to great hardships as a result of this unusual stipulation. The other grievances of farmers, mostly of the partially excluded areas in the Panch Mahals, were connected with reduction in ceiling prices of grains offered on several pretexts, such as that the quality of grain was not upto the standard, that they were not properly cleaned on the threshing floor or that there was an admixture of foreign matter or other inferior varieties of cereals or pulses. In addition to their being required to carry foodgrains over long distances for delivery at Government godowns, there were unusual delays and inconvenience during weighment and in making payments.

It should be stated in fairness that looking to the nature, magnitude and urgency of the task to be performed in a short time the scheme was not unreasonable and could not have been easily replaced by a better one. No measure of this nature can be fool-proof without public co-operation. If along with the changes indicated in the discussion crop-cutting experiments had been conducted on scientific lines to assess yields and in that way a correct beginning made, and had the same device been employed on a representative sampling basis to check up

the final scales of levy embodied in the tables, the confusion that arose as a result of the initially pitched up grain demand, the discontent that it gave rise to and reductions in scales of levy in respect of a large number of sub-divisions ultimately would have been avoided

§3. Black Market in Grains. For a correct appraisal of increase in the gross returns of the farmers, it is necessary to ascertain the black market dealings of the farmers in foodgrains. Unfortunately detailed information about the extent of black markets in foodgrains could not be gathered. From observations and the little material that could be collected, however, it seems black markets in cereals in rural areas were not highly developed and whatever transactions took place were confined to farmers themselves. In the Surat district, despite the ban on inter-village movements of and private trading in foodgrains and fixation of their prices, the *kada* variety of paddy was mutually exchanged by farmers of the same village or neighbouring villages at Rs 7 per maund as against Rs 3-12 fixed by the Government for the same quantity. Another instance of black marketeering in grains was even more striking. The *kolam* rice which was distributed from village fair price shops in limited quantities at Rs 11 per maund was sold secretly by the farmers at the rate of Rs 17. In 1943 these and similar other transactions were confined to the paddy-growing talukas of Pardi, Bulsar and Chikhli, but spread to the neighbouring northern sub-divisions of Surat subsequently where *jowar* is the main crop and people experienced acute shortage of rice. *Kada* and *vankvel* were reported as being smuggled cleverly to these areas in 1944 and 1945 and sold at Rs 8 per maund. With the rigorous enforcement of control measures such transactions became smaller and smaller in number and higher gross returns to farmers from them progressively dwindled.

§4 Cost of Cultivation. Having dealt with the changes in the gross returns of the farmer during the war and numerous other related aspects, we shall now pass on to the consideration of his disbursements in order to have an idea of his financial position from the pursuit of agricultural calling and other allied occupation or occupations. One of the two main heads of cost to the cultivator is the expenditure on farming. The tabulated statements on pp 301-2 indicate the rise in the cost of cultivation under the main items over the entire period of the war.

COST OF CULTIVATION, 1938-45

Item	Unit	Price in			Percentage increase, 1938-9 to 1944-5
		1938-9	1943-4	1944-5	
<i>Manure</i>					
Cow dung	Cart-load	Rs a 0 10	Rs a 2 0	Rs a 3 0 to 4 0	480 0
Castor oil cakes	<i>Khandi</i> of 20 Surti maunds	15 0	51 0	25 0	288 6
<i>Cattle</i>					
<i>Kankrey</i> ..	Pair of bullocks	300 0	700 0	1,500 0	400 0
<i>Talapada</i>	" "	150 0	550 0	1,000 0	588 6
<i>Implements</i>					
Persian wheel		125 0 to 150 0	400 0	650 0	333 3
Leather <i>Loe</i>	One year's service	12 0	25 0	40 0	333 3
Wages (casual labour)					
Male	Per day	0 4	0 10 to 1 0	0 12 to 1 4	300 0
Female	" "	0 3	0 10 to 0 12	0 12	300 0

COST OF CULTIVATION, 1938-45—(CONT.)

Item	Unit	Price in			Percentage increase, 1938-9 to 1944-5
		1938-9	1943-4	1944-5	
		Rs a	Rs a.	Rs a	
<i>Fodder and Feeds</i>					
<i>Kadbi</i>	100 bundles	1 4	3 0	4 0	220 0
<i>Grass</i>	1,000 "	10 0 to 20 0	20 0 to 40 0	40 0 to 60 0	233 3 *
<i>Guar</i>	1 Surti maund	1 8	4 0 to 4 8	5 4	250 0
<i>Til oil-cakes</i>	" "	1 0	3 0	3 0	200 0
<i>Cotton seeds</i>	" "	1 4	3 12	3 8 ¹	180 0
<i>Kuaki</i>	" "	0 4	1 0	1 4	400 0

¹ This is only the controlled rate. If the black market rate of Rs 5 8 per maund is taken into account the rise in the price of the commodity would be 340 per cent

It is not possible to obtain similar information about other items and to assess their relative importance in the cost of production. It will be seen from the tables that the rise under individual items ranged from 180 per cent to as high as 566·6 per cent. Except under cow-dung, cattle and one item under 'Fodder and Feeds', the rise in the prices of the rest was more or less uniform. The greatest rise was registered in the prices of draught cattle, which should also presumably reflect the inflated values of milch animals, due mainly to their acute shortage. The main contributory cause was the indiscriminate slaughter of cattle. The diseases of livestock which were in virulent form in some areas, especially during the closing phase of the war, took a heavy toll of cattle life. Cow-dung and oil-cakes are usually purchased by the growers of irrigated crops and paddy. The rise in their prices, therefore, affected a small proportion of farmers of Gujarat. It should be mentioned in this connexion that the Government supplied groundnut cakes to farmers at cheap rates. This concession, however, came to but little. Apart from the high prices that had to be paid for agricultural implements and the heavy cost of their repairs, the almost unavailability of iron and iron tools must have adversely affected the productivity of agriculture. As in the case of cow-dung and fertilizers the cost of labour also enters as a major item in the cost of cultivation of the cultivators of advanced classes only because members of their families do not help them on the farms. With the bulk of the less resourceful farmers who ordinarily draw the labour required in cultivation from the home, employment of outside labour is only occasional. Moreover, in many cases wages are paid in kind which also takes away a good deal from the significance of the trends indicated by the statistics of cash wages. The roughage needed for the cattle is generally produced on the farm. It is only when the stocks fall short of the requirements due to insufficient production or as a result of the rains setting in late that farmers have to purchase some fodder. All the farmers, whether small or big, however, purchase concentrates for their draught and dairy cattle, although the quantities purchased vary from farmer to farmer according as their finances permit. On the whole, as a rough estimate we may say that the cost of cultivation increased by 350 per cent.

§5 'Grow More Food' Campaign. As a result of the food shortage that threatened India, the Government of Bombay as a part of an all-India campaign embarked upon a 'Grow More Food' drive in the middle of 1942. The Government's aim in launching the campaign was to persuade the farmers to devote a larger area to the cultivation of food crops. This was to be largely done by a reduction in the acreage under non-food crops so that with the increased production so attained the food shortage in the province in general and Gujarat in particular might be effectively met. Farmers were also requested to increase the area under food cultivation by bringing wastes, grasslands and fallow lands under the plough. The Government also made revenue-free grants of waste lands under their control to farmers who would cultivate them with food crops. Efforts were also made to improve the yields of crops by offering to the farmers improved seeds and manures at concessional rates.

The results of the inquiry revealed that the farmers' response to the campaign was much below expectations. In no district of Gujarat, any considerable area under wastes, fallows and grasslands was brought under food crops. Only one farmer in the Surat district out of 178 examined in Gujarat and 65 in that district alone had brought a small area of grasslands under the plough. In Godhra taluka of the Panch Mahals some farmers accepted revenue-free lands from the Government and tried to cultivate food crops on them. The lands, according to the farmers, proved unsuitable for cultivation. The crops failed completely and the farmers were put to loss to the extent of expenses of cultivation they incurred. It may be thus said that this aspect of the campaign failed to produce results.

In regard to bringing about a switch-over from non-food crops to food crops the results were more favourable, but not upto expectations, and in some parts the proportion of area under cotton even rose. For instance, in the territory of the Vagra taluka bordering the Jambusar taluka, cultivation of cotton rose at the cost of food crops in 1942 and 1943. The main reason advanced for the slow progress in switching over was that it is difficult to put black soil, which is found over large areas of Gujarat and which is essentially suited to raise cotton, to the cultivation of food crops.

Farmers, no doubt, undertook the additional cultivation of certain cereals on account of their shortage. In the Surat district, out of 66 farmers about whom information could be gathered, 12 began to raise wheat as a *rabi* crop, while in the Kaira district out of 25 farmers examined three cultivated wheat and *bajri* as second irrigated crops. As this kind of cultivation depends upon available water supply and as irrigation facilities could not be expanded at short notice, there was no possibility of an appreciable increase in it. Irrigation farming also received some setback during 1942 and 1943 due to difficulty of obtaining fuel and lubricating oils for running oil engines, except at black market rates. In 1944 arrangements were, however, made for their regular supply for agricultural purposes. Paddy cultivation also depends on the area of rice beds which cannot be expanded soon. Broadcast paddy crops, besides being more at the mercy of the season, cannot bring about an appreciable expansion in production as the yield under this form of cultivation is low.

Dry crops do not require much manuring. The fertility of the soil that is exhausted in the process of raising crops is made good by nature's recuperative process when the land is idle. But irrigated crops need the application of manures. Accordingly, groundnut oil-cakes were supplied by the Government to the farmers of Kaira and Surat who raised, in order, irrigated and paddy crops at the concessional rates of Rs 1.4 and Rs 1.6 per maund respectively. The quantity that was made available, however, was very limited. Out of 178 farmers examined throughout Gujarat and 90 from the two districts, only 13 reaped the benefit of this arrangement. Small farmers in Surat while complaining about the inadequate supply of oil-cakes stated that it was within the reach of only the influential few.

Bajri and wheat were the two crops for which improved seeds were supplied by the Government and only three farmers from Kaira and four from Surat of those examined took advantage of the concession. Wheat of improved variety to be used as seeds were supplied at Rs 3.8 and Rs 6 per maund in the Kaira and Surat districts respectively. It is hardly necessary to say that the facility was wholly insufficient to produce substantial results. Similar information about *bajri* could not be obtained.

The difficulty of obtaining information about the increase in the yields of crops from the supply of improved seeds and oil-cakes are apparent. It was obviously not possible to maintain a link even with the limited number of cultivators who benefited from these facilities to get reports about the results that might have been achieved. It may, however, be stated in general that in view of the small quantities in which improved seeds and oil-cakes were made available to a limited number of farmers no remarkable addition to the aggregate production of food crops would have been secured.

Let us now examine the acreage under food, non-food and fodder crops during 1939-40 to 1943-4. On pp 307-8 are given figures of areas under the three classes of crops for the four years referred to. The corresponding figures of the production of foodgrains in different districts separately and also for the whole of British Gujarat are also given.

It will be clear from the tables that there was some switch-over of area mainly from under non-food crops to the cultivation of food crops at the end of the period. The ratio of areas under food, non-food and fodder crops, which was 53.32.15 in 1939-40 was slightly altered in favour of non-food crops, mainly at the cost of fodder crops to 53.34.13 in 1941-2. There was a tendency towards expanding the cultivation of cotton and tobacco during the first few years of the war. In 1942-3, however, the proportion of areas under the three types of crops stood at 58.25.17 which indicates that cultivation of food crops gained some ground. But in 1943-4 again the ratio was slightly altered in favour of non-food crops to 56.28.16. The 'Grow More Food' campaign was launched in 1942 and as revealed by these figures it did not show its results till 1943-4.

A note of warning should be sounded about drawing any inference from the figures of areas under fodder crops. It will be noted from the tables that there was a decline in acreage under them between 1939-40 and 1941-2, and a corresponding increase in area under non-food crops. In one year between 1941-2 and 1942-3, on the other hand, there was a startling increase in the area of fodder crops, particularly in Ahmedabad. Such a sudden re-shuffle cannot take place almost overnight and casts a doubt on the reliability of these figures.

FOOD, NON-FOOD AND FODDER CROPS, 1939-44¹

District	1939-40					1940-1					1941-2				
	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)	Outturn of food grains (tons)	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)	Outturn of food grains (tons)	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)	Outturn of food grains (tons)	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)
Ahmedabad	9,649	4,940	980	1,681	9,803	5,850	845	2,582	9,898	5,924	758	1,503			
Broach and Panch Mahals	6,304	4,890	1,079	1,180	7,115	4,965	1,033	2,050	6,854	4,866	1,103	1,385			
Kaira	4,862	2,284	1,433	697	5,340	2,338	978	1,412	5,067	2,491	1,075	1,125			
Surat	2,730	2,139	2,945	631	3,345	2,281	2,885	876	2,278	2,438	2,864	417			
British Gujarat	23,545	14,263	6,437	4,189	25,603	15,434	5,741	6,930	24,097	15,769	5,800	4,430			

¹ The figures of area are in hundreds of acres

FOOD, NON-FOOD AND FODDER CROPS, 1939-44¹—(CONT.)

District	1942-3				1943-4			
	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)	Outturn of food-grains (tons)	Food crops (acres)	Non-food crops (acres)	Fodder crops (acres)	Outturn of food-grains (tons)
Ahmedabad	9,822	4,257	2,646	2,351	9,726	4,721	2,573	1,991
Broach and Panch Mahals	8,090	4,002	1,108	1,987	7,543	4,825	1,191	2,005
Kaira	5,887	1,608	1,349	2,038	5,794	1,818	1,192	1,933
Surat	3,566	1,830	2,835	1,216	3,621	1,923	2,820	1,136
British Gujarat	27,365	11,697	7,938	7,592	26,684	13,287	7,776	7,065

¹ The figures of area are in hundreds of acres

We have discussed at length elsewhere the defects in the methods followed to assess crop yields and to arrive at the aggregate production of foodgrains on their basis. The official statistics given in the tables show that the production of foodgrains in 1942-3 and 1943-4 was over 27 and 19 per cent respectively above the quinquennial average of 5,92,416 tons for 1935-6 to 1939-40. Partly this may be due to the increase in the area under food crops and the favourable seasons the farmers enjoyed during the greater part of the period, 1939-40 to 1943-4. It does, however, also indicate that the annual foodgrains production in Gujarat, as elsewhere, is subject to wide fluctuations from year to year and, therefore, cannot serve as a measure of the success of the 'Grow More Food' campaign.

§6 Growth of Food Crops Act, 1944. The 'Grow More Food' campaign failed to produce the desired results till 1942-3. Renewed efforts were made during 1943-4 to impart vigour to the campaign through the provision of still larger quantities of improved seeds of important cereals and of groundnut cakes at concessional rates. In addition to this, instruments of propaganda like meetings, pictorial posters, ballad singers, etc., were employed and leaflets printed in important regional languages were distributed to impress upon the peasantry the urgency to curtail the area under non-food crops and expand production of food by devoting as large an acreage as possible to growing cereals and pulses. It was ultimately realized that the measures employed to make the 'Grow More Food' campaign a success had proved inadequate in some parts and had already reached the limits of effectiveness and to achieve a substantial reduction in the gap between the requirements of foodgrains and their actual production the enactment of legislation was imperative. Accordingly, the Growth of Food Crops Act, 1944, was put on the statute book. It took effect from 20 May of the same year.

Sections 3 and 4 of the Act regulate the areas to be maintained under food and non-food crops after the legislation came into force. The former, in brief, requires every cultivator to grow scheduled food crops on an area of his holding in 1944-5 which should not be less than that covered by these crops during 1943-4. Section 4 is more rigorous and calls upon the cultivators of the areas where it is made operative to place at least two-thirds of their holdings under scheduled food crops and not more than

one-sixth of their cultivated lands under cotton and tobacco. Crops like groundnuts which were both consumed and used for commercial purposes were excluded from both the categories and areas under them were not intended to be disturbed much in the first instance. Except for Sanand and Modasa mahal in Ahmedabad, Anand taluka in Kaira, Broach, Ankleswar, Vagra and Jambusar talukas in Broach and Olpad, Mandvi and Bardoli talukas in Surat where section 4 of the Act was enforced, in the rest of British Gujarat this provision took effect.

That part of the Act which aims at revising the ratio of areas under food and non-food crops drew forth a series of complaints immediately after it was applied, particularly from the Broach district. The gist of the complaints was that in predominantly cotton-growing areas a sudden readjustment of lands under cultivation overwhelmingly in favour of foodgrains is not possible and any attempt to achieve it would seriously affect agricultural efficiency by imparting a violent disturbance to the long-established agricultural practices. By a subsequent order, however, all the cultivators' holdings, five-sixths or more of which produced cotton in 1943-4, were exempted from the operation of section 4.

For the agricultural seasons of 1945-6, section 4 of the Act was made operative over all the five districts of British Gujarat except for the Chorasī, Chikhli, Bulsar and Pardi sub-divisions of Surat where section 3 was continued for another period of one year. A list of foodgrains which can conveniently serve as substitutes for tobacco and cotton was also published every year on the eve of the commencement of sowing operations.¹

It is not known how far the suggestions about the food crops that could be grown in place of tobacco and cotton have a bearing on the experiences of the farmers in regard to the suitability of the many types of soils of Gujarat to various crops, both food and non-food. Grave doubts will be entertained about the relation of these recommendations to actual realities in the light of results of trials by farmers to raise foodgrains, either alone or as one of the mixed crops, on lands on which cotton has long been the only or main crop grown. For instance, cultivation of *bajra* or *jowar* on the *ush* lands in Ahmedabad and paddy on the black soil in *Kanam* more often than not yield little or nothing.

¹ See *Bombay Information*, 24 June 1944, p. 1, and 23 June 1945, p. 1.

at all. The farmers of the cotton tracts of the Surat and Broach districts complained that cultivation of wheat or *jowar* year after year on the same land deprives the soil of the advantage of recuperating the fertility through rotation of cotton and cereals alternately which results in low yields of cereals. A good many hardships and inconvenience to farmers could have been avoided had section 4 been enforced after these factors had been duly considered and necessary alterations effected in that light. A further difficulty for the farmers arose when instead of taking only cultivated lands under food and non-food crops for the purpose of deciding the proportions of both under the two sections of the Act, even certain areas of holdings which are always grasslands or under fodder crops for animals in rotation were also included. Corrections were no doubt made in some cases as and when these drawbacks were brought to light but in a large number of cases the defects were not amended. Apart from the disturbance to cultural practices and inconveniences to farmers that arose from it, these errors threatened a grave injustice when it came to deciding the grain levy, where the area under food crops in respect of each holding was assumed as interpreted under the Act. The other defects in the legislation would be mentioned at relevant places.¹

§7 Tenancy. War brought about important changes both in the rates and the long-standing practices of tenancy. In 1939 out of 178 farmers and 12 artisans and labourers who carried on little farming apart from their main calling, 120 were tenants wholly or partly, cultivating others' lands either on cash rent or crop share. Only 15 of these 120 held the whole of the land they cultivated on tenancy. An analysis in greater details revealed that 37 of these tenant farmers cultivated land entirely on crop share, 58 entirely on cash rental and the remaining 22 partly on both.

During the war out of the 80 farmers paying cash rent there was a rise in the amounts paid in 48 cases ranging from 8.3 per cent to 140 per cent or of 46.9 per cent on an average. The degree of enhancement depended on whether the land could

¹ For a fuller account of the working of the Growth of Food Crops Act, 1944, in relation to Gujarat see *Food Crops of Gujarat, 1939-1946*, a study prepared by the Agricultural Economics Section of the Bombay University School of Economics and Sociology and published by the People's Provincial Food Council, Bombay.

raise dry or irrigated crops and whether there existed a competitive demand for it. The landlords could not enhance rent in the remaining cases because of the periodic leases they had entered into with the tenants. The mode of paying rents was not much affected. Only three cultivators switched over from paying rent in cash to that in kind at the instance of the landlords. Only one share cropper began paying cash rent.

There was no change in the proportion of the produce surrendered to the landlord.

§8 **Cost of Living.** The other chief head of expenditure of the cultivator is the maintenance of his family. It is not possible to obtain information about all the items of expenditure on living and assess their relative importance. But the table below gives the rise in some items entering into the farmer's cost of running the household.

Item	Unit	Price in			Percentage increase, 1939-45
		1939	1944	1945	
		Rs a	Rs a	Rs a	
Sugar	Seer of 80 tolas	0 4	0 8	0 8	100
Kerosene	Tin of 4 gals	2 12 to 3 0	5 5	5 8	100
Matches	One dozen boxes	0 3	0 9	0 9	200
Sweet oil	Surti maund	5 8 to 6 0	17 0 to 18 0	20 0 to 21 0	250
Tea	One lb	0 8 to 0 10	1 8 to 1 10	1 12	211
Gur	Surti maund	1 4 to 1 8	7 0 to 10 0	7 0	400
Salt	" "	0 14 to 1 0	1 8	1 8	60

It will be found from the table that the rise in the prices of individual items ranged from 60 to 400 per cent. Rise in cost under items like sugar and kerosene was checked because of rigid control over them both in respect of prices and distribution. Matches, salt and tea also did not rise much in prices. In the

absence of knowledge regarding the extent of the black market, it is not possible to ascertain the volume of purchases from the source and the extra rise in the farmer's cost which is not shown in the table. It was, however, found during the inquiry that a few well-to-do cultivators only could afford to pay the black market prices. The black market prices of a few commodities that are available, therefore, would serve as a rough indicator of increased cost of living of a small number only. But the acute shortage of these commodities brought severe hardships to the bulk of the peasantry. As a rough guess the increase in cost of living may be put at about 200 per cent above the pre-war level.

More important than the hardships due to rise in prices were those due to inadequate distribution arrangements. We shall now describe these in the case of foodgrains, sugar, kerosene and standard cloth.

§9 Distribution. (1) *Grains* In the beginning co-operative stores run by the Khedut Office in important villages in Kaira distributed small quantities of rice, *bajri*, wheat, *tur dal*, etc., to the village population, although their systematic rationing was not contemplated. The limited supplies of grains were distributed to as many people as possible in the queues that were formed. There was a general complaint in this connexion that the quantities distributed at these stores, besides being inadequate, were not assured. In other districts arrangements for distribution of foodgrains even on a limited scale did not exist till 1944. It was from May 1944 that regular rationing of important cereals was taken in hand. Rationing was made applicable to the non-agriculturist rural population in the first instance with an intention to extend it to farmers as and when they exhausted their declared stocks of grains produced by them. Fair price shops were opened for groups of four to five villages and the task of running them was entrusted to the village co-operative credit societies wherever they functioned. The cereals rationed were wheat, *jowar*, *bajri* and barley and except for the last such of them were distributed as were commonly in use. Each family was issued a ration card and was allowed to draw five and a quarter seers of grains weekly per every adult member of the family in a certain fixed proportion. Later on rice was also distributed in small quantities and the monthly ration of all the important cereals was raised to 29 seers made up

of 16 seers of *jowar*, five seers of wheat, seven seers of rice and one seer of *kanki* or broken rice¹ Where *bajri*, wheat or maize constituted the staple article of diet, the place of *jowar* was taken by one of them and a less important grain occupied the second place

It was not possible to assess in the beginning even approximately the extent to which the rural population would take advantage of the arrangements. Experience proved that the stocks of grains which a large number of shops took up for the first year turned out to be greatly in excess of those absorbed by the card-holders. Most of the people drew their rations regularly in the monsoon but for a long time after the harvests commencing from October hardly a few families claimed their rations. The stored foodgrains started deteriorating rapidly and even though people were permitted to draw full rations of a month, only a small part could be disposed of. In due course, the remaining became unfit for human consumption and had to be sold to the farmers at nominal prices who utilized them as cattle feeds. In 1945, however, some adjustments were made to avoid such contingencies and it was hoped that no destruction of valuable foodgrains would be caused in future.

It was also arranged in the beginning that the little profits that might accrue from the business, after meeting the expenses on transport and distribution of grains and establishment, would be appropriated by the co-operative societies, but on account of the cause mentioned above, there were large losses beyond the limited resources of the societies and the Government had ultimately to bear them. Apart from the deterioration in foodgrains in 1944 and the loss that arose out of it, it had been found subsequently that deficits had become a regular feature in the working of the stores. It was expected that the Government would reimburse the stores for such losses so that the finances of the co-operative credit societies would not be needlessly strained.

(ii) *Sugar and Kerosene* Sugar and kerosene were in short supply due to inadequate production in the country in comparison with demand and the difficulty of importing. With a view to making the distribution of these commodities as equitable as

¹ In view of the threatened famine conditions a cut of 25 per cent in the foodgrains ration was imposed from March, 1946

possible, a beginning towards partial rationing was made. A licensed dealer, a respectable person in the village, a police patel, a co-operative credit society and the village panchayat were the agencies chosen to distribute sugar and kerosene in the villages. Sometimes, panchayats delegated this work to individuals under their direct supervision. Where distribution was handled by a dealer or a respectable inhabitant of the village, the police patel, village panchayat or a committee of prominent persons of the village supervised the operation. In isolated instances, residents of villages in the vicinity of towns and cities had to draw their rations from dealers in nearby urban centres. As an instance of such an arrangement it may be mentioned that the inhabitants of villages within five miles from Viramgam drew their sugar rations from licensed dealers operating in the city. Later on when fair price shops were opened for groups of villages, the function of distributing sugar and kerosene was transferred to them only in respect of those villages in which they were located so that in most of the villages the distribution of these commodities remained with the agencies enumerated above.

Every individual was allotted sugar ration per month although no individual ration cards were issued. Only in a few villages in the Ahmedabad district an aggregate ration of about two and a half seers per family irrespective of its size was distributed monthly. Elsewhere, a list of the heads of the families in the village with members in them was made out and total quantities to their shares on the basis of individual rations were calculated. Following were the quantities of sugar distributed per individual per month in villages of various districts

District	Ration in seers
Ahmedabad	$\frac{1}{2}$
Baroda State	$\frac{3}{4}$ to 1
Broach	$\frac{3}{4}$
Kaira	$\frac{1}{4}$ to $\frac{3}{4}$
Panch Mahals	$\frac{1}{4}$
Surat	$\frac{1}{4}$ to 2 ¹

The rural population, however, was not assured of these rations and the quantity of sugar distributed each month fluctuated along with the quotas made available to the villages from time to time. It frequently happened in the case of many villages

¹ The usual rations were of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $1\frac{1}{4}$ and 2 seers

that the initial rations were cut down later on when the supplies went down. In the Bhil tract of the Panch Mahals the distribution of even this small quantity of sugar was not systematized till March 1944 and each family was supplied a ration of one seer per month as and when supplies were forthcoming. Conditions, however, improved later on.

Kerosene was distributed monthly and the quantities usually made available throughout rural Gujarat varied from one to two pints per family per month. Besides, arrangement was made to supply two gallons of kerosene every month for industrial use to each cultivator who maintained an oil engine for irrigating crops. The organization, however, did not work smoothly everywhere. For instance, in parts of the Broach district where the population is backward, it was found that both sugar and kerosene were not regularly distributed even in these small quantities and villagers had to go without them for months. In regard to the Panch Mahals and some villages of Ahmedabad also it took a long time for these arrangements to take effect. Villagers in the former district had to queue up in front of the shops of licensed dealers for a very long time in the beginning to obtain even the small kerosene ration. The village dealer, in his turn, was supplied with a tin every week for distribution in this way. As only some people of those who arranged themselves in queues could get kerosene, the distribution remained irregular and unsystematic. In some villages of the Viramgam taluka also no arrangements for distributing kerosene were made in the initial stages and the villagers had to queue up in front of the shops of licensed dealers at Viramgam. As the quantity to be distributed daily was limited many villagers had to go without it altogether and the trouble involved in going all the way to the city was wasted. People bitterly complained about the inadequacy of the rations distributed, particularly in view of the fact that kerosene is indispensable in the rural areas for lighting purposes.

(iii) *Black Market in Sugar and Kerosene* Black marketing in sugar and kerosene was made into a fine art in the rural areas of Gujarat. During the course of the inquiry it was found that out of 178 farmers and 19 artisans about whom information could be obtained, 39 purchased sugar from the black market and about 40 secured kerosene from the same source.

It will be interesting to know how black markets came into being. The Government appointed licensed distributors at taluka towns to deliver the allotted quotas of sugar and kerosene to the villages of the sub-divisions concerned. The distributors in towns manœuvred to show shortages in the specified quantities received from the Government under the heads such as wastage and leakage in transit and thereby collected substantial surpluses. On more or less similar excuses of loss in the process of distribution, they managed to accumulate further extra quantities after the monthly quotas were delivered to the agencies in the villages for being rationed among the people. The stocks of sugar and kerosene so secured were then passed on into the black market and thus arose illegal trading in these commodities in the urban areas. The devices of the distributors in towns were also at the disposal of the village licensed dealers to a limited extent, but there were other factors at work that helped them to accumulate sugar and kerosene for sale in the black market. The backward classes like Dhodias, Dublas, Naikas, Bhils, etc., consumed little sugar and hence did not draw their rations regularly, offering scope to the village agencies to make small gains by selling the unclaimed quantities at high prices. Some of these families who normally did not use sugar drew their rations punctually and sold them to others at high rates. The price of sugar in the black market ranged from Rs 70 to Rs 80 per Bengal maund as against its controlled rate of Rs 20.

The genesis of the kerosene black market was slightly different. For lighting purposes kerosene was very essential to all the rural classes and even the poorest in the villages highly valued the rations, meagre even though they were. For this reason villagers did not fail to claim their kerosene rations. Where, however, a licensed dealer was appointed for a group of small villages, residents of distant villages did not claim their rations for the simple reason that the small quantities distributed did not compensate for the inconvenience, trouble and waste of time involved in claiming them. Obviously, such licensed distributors were left with surpluses which ultimately found their way in the black market. The rate for such dealings in kerosene ranged from Rs 15 to Rs 17 per tin as against its controlled price of Rs 5-8.

(iv) *Distribution of Standard Cloth.* In the beginning when the supply of standard cloth was limited, the Mamlatdars and

Mahalkaris fixed small quotas for the different villages leaving their distribution among the rural poor and the needy to the village officers. With the passage of time, however, standard cloth became available in abundance. Government opened standard cloth shops at the taluka and other important towns. Despite its low cost, the standard cloth did not become popular with the masses. Out of 197 farmers and artisans about whom detailed information in this connexion was obtained 74 or 37 per cent met a small proportion of their clothing requirements from standard cloth. Except for only two farmers in whose case 50 and 33 per cent of the total requirements were met from standard cloth, expenses by the rest on this variety did not come to more than 10 to 20 per cent of the aggregate under this head. The main causes of the unpopularity of standard cloth was the absence of varieties in it and the low durability of the material. The types available were saris and long-cloth of unsuitable width.

§10 Changes in Consumption Habits. Although an accurate estimate of shortage is difficult to obtain it is common knowledge that Gujarat is a deficit food-producing region, more so in regard to rice. Considered from the standpoint of self-sufficiency in food of its districts, Ahmedabad in particular, considerably falls short of food required to feed the population of the district. This phenomenon was prominently brought out when imports of foodstuff from other regions ceased to flow in, particularly after the entry of Japan into the war, partly due to restrictions placed by provincial administrations and partly on account of the transport bottle-necks. People had to change their consumption habits and in view of the unavailability of many staple articles of diet, they had to be content with substitutes that could be had including inferior grains. Out of 197 farmers and artisans about whose dietary habits information was gathered, 38 curtailed the use of rice, 22 of whom ceased to consume it altogether. With the remainder, fall in consumption ranged from 25 to 75 per cent. About eight farmers, on the other hand, mostly from the Surat district, increased the consumption of rice ranging from 15 to 45 per cent to make up for the fall in the use of other grains. Wheat was the second item, the consumption of which decreased. Twenty-eight farmers reduced consumption of wheat, of whom 15 totally discontinued its use while with the rest curtailment

ranged from 20 to 60 per cent. Five farmers, on the other hand, increased the use of wheat mostly in regions where wheat is the main crop, perhaps to compensate for the fall in the use of rice. Ten farmers reduced the consumption of *jowar* ranging from 10 to 50 per cent, while five more completely discontinued its use. Nine farmers increased the use of *jowar* from 20 to 25 per cent to make up for the reduction in the use of other grains. Consumption of *bagri* fell with five families ranging from 55 to 100 per cent. As substitutes for unavailable cereals, inferior grains like *bavlo*, *banti*, *nagli*, etc., began to be used increasingly. Thirteen farmers began to use such grains for the first time and about two more increased their use by about 40 per cent. Two farmers reduced their use by half.

Due to the grave sugar and kerosene shortages, reduction in their consumption was much greater. The use of sugar was curtailed in the case of 160 families and the reduction ranged from 25 per cent to as high as 100 per cent in a few cases. About 159 farmers reduced consumption of kerosene from 50 per cent to 100 per cent. Many of the rest obtained these commodities from the black market on account of their favourable financial position. In a few cases castor oil took the place of kerosene for lighting and jaggery that of sugar. Thirteen families increased the use of jaggery by 50 per cent. As against this, the poor farmers had to effect economy in its use and seven families reduced the consumption of *gur* round about 40 per cent on an average.

§11 Dairying. Dairying is an important subsidiary occupation of the farmers of this tract. All the 178 farmers examined in the course of the inquiry maintained milch cattle, but only 51 of them had a surplus of dairy products for the market. The remainder produced enough for personal consumption. Even with the 51 farmers a good proportion of the milk and ghee produced was consumed at home. This is one of the reasons why it is difficult to arrive at profits from dairying, even approximately. Besides, expenses by farmers on fodder and feeds are incurred jointly for both the draught and dairy animals, and except for a few items separate expenditure on milch cattle could not be obtained. In addition, farmers often change dairy animals for which no accounts are maintained. Frequent deaths of dairy and draught cattle from disease and the necessity for the farmer to replace them is one more difficulty in striking a balance.

In view of these qualifying conditions we shall only try to find out roughly as to how dairying fared during the war

A perusal of the tables on pp 301-2 showing the rise in the cost of various items of the cost of cultivation will indicate that cotton seeds and *kuski* which are two of the important feeds purchased solely for the dairy cattle rose by 200 and 300 per cent respectively between 1938-9 and 1943-4. Except for *kadbī* and grass, other items of fodder and feeds also rose by 200 per cent over the same period. Fodder consumed by cattle, however, is mostly produced on the farm and the rise in its price could indicate rise in the cost only for those farmers who purchase it. The prices of milk and ghee sold by the farmers, on the other hand, rose by about 200 per cent over the same period. In 1945, the prices of cotton-seeds and *kuski* were 180 and 400 per cent respectively above the pre-war level. Upto 1944, the price of milk continued to rise and remained at the same level in 1945. Ghee prices, on the other hand, retained their upward trend throughout. Thus the dairying industry was on the whole favourably affected by the war but it had to face other serious difficulties. There was an acute shortage of dairy animals on account of indiscriminate slaughter and heavy casualties due to disease. These factors raised their prices to soaring heights. As a result of the smaller acreage under cotton in 1944 and the resultant limited cotton crop in 1945 there was an acute shortage of cotton-seeds required to feed the dairy cattle which adversely affected the milk yields of the milch cattle. Efforts were made to ration two seers of seeds per day and 15 seers per month per animal in lactation in the Surat and the Panch Mahals districts respectively. The prices of cotton-seeds were fixed and restrictions on their movements imposed. These arrangements to distribute meagre and wholly inadequate rations in comparison with the supplies needed proved unsatisfactory in many cases. Only farmers of the villages served by the efficient co-operative societies in charge of distribution were able to obtain the rations of cotton-seeds regularly while others got them very irregularly and had, therefore, to go without this important item of cattle feed for days.

§12 **Farmers Economic Position.** The farmers of Gujarat may be grouped under two main heads—cultivators, who besides growing cereals and one or two non-food crops, are mainly engaged in garden cultivation, and those who exclusively raise dry crops,

both food and non-food In the irrigated regions a farmer with two and a half to three *bighas* of land is able to maintain himself in normal times On the other hand, farmers raising dry crops and with holdings below 15 *bighas* have not enough realizations from the sales of their produce to cover the cost of cultivation and thus have nothing left to meet the expenses of the household In arriving at these conclusions, however, the farm produce consumed by the cultivator, the grains and other payments in kind to the labourers and certain items like manure supplied by the cattle on the farm have not been accounted for. Our inquiry revealed that 65 per cent, or about 115 out of 178 farmers examined, had deficit budgets even during the pre-war normal times The results of the various rural surveys carried out in Gujarat from time to time also corroborate these conclusions Nine farmers were added to the list of those with deficit budgets as a result of the war Out of the 54 remaining farmers 30 raised dry crops on about 60 *bighas* of land on an average and the remaining 24 carried on irrigation farming on three or more *bighas* each with limited areas under other food and non-food crops They enjoyed a fair measure of war prosperity We shall now examine how the farmers utilized their surplus earnings that accrued as a result of war-time conditions.

(i) *Indebtedness* Another general indication of the effects of the war on the farmers can be had from the figures of indebtedness. The information gathered about indebtedness of the cultivators is put in a nutshell in the following table The farmers having debts have been grouped into four classes (I) those whose debts were reduced, (II) cultivators whose debts remained the same, (III) those farmers who added to their debt burden, and (IV) those peasants who became indebted during the war for the first time.

Class	Number of farmers	Indebtedness in 1938-9	Indebtedness in 1944	Variation (Amount)
I	29	Rs 62,400	Rs 13,900	Rs —48,500
II	27	34,642	34,642	Nil
III	24	17,151	53,073	+ 35,922
IV	19	Nil	10,865	+ 10,865

Out of the 178 farmers studied as many as 80 were already in debt when the war began and the average burden of debt per indebted cultivator amounted to Rs 1,427. Of those 80 farmers the debt in the case of 29 was scaled down by 77 per cent during the five years of the war and the average indebtedness which amounted to Rs 2,157 in 1938-9 was reduced to Rs 479 in 1944. Nine of those cultivators whose debts had been scaled down were mainly carrying on garden cultivation. Their debts which amounted to Rs 21,800 were completely wiped out. The rest raised dry crops, cotton and one or more of the important cereals of wheat, *jowar*, *bagri* and maize. The scaling down of debts in their case was from Rs 41,600 to Rs 13,900. A further important factor to be noted in this connexion is that of the reduction of Rs 26,700 in these debts, a scaling down to the extent of Rs 6,700 was achieved by the sale of ornaments and lands. Thus in regard to the cultivators of dry crops the actual reduction in debts due to war prosperity was 65.9 per cent. The table shows that there was no change in the amount of debt of 27 farmers. In regard to 24 farmers in class III the debts rose by Rs 35,922 but of this as much as Rs 30,351 were borrowed by two farmers to purchase land so that the real increase in indebtedness due to war can be put down only at Rs 5,571. In the case of 19 farmers in class IV who happened to be burdened with indebtedness for the first time, out of the debt of Rs 10,865 contracted during war years Rs 1,600 were borrowed for the purpose of purchasing land by two farmers so that here again financial difficulties account for the borrowings to the extent of Rs 9,265. Taking the situation as a whole, we find that the indebtedness of all the farmers examined which aggregated to Rs 1,14,193 in 1938-9 stood at Rs 69,664 in 1944 after making allowances for the borrowings of Rs 31,951 which were contracted for the purchase of lands. Thus the reduction in indebtedness during five years of the war may be put down at a little over 38 per cent.

The statement on p 323 gives the average size of cultivated holdings of farmers in each class and the important crops raised on them.

It will be clear from this statement that cultivators raising dry crops with an average holding of 38.9 acres had sufficiently high realizations from the sale of the produce at high prices

Class	Average size of cultivated holding (Acres)	Important crops
I	38.9	Dry crops—cotton, wheat, <i>jowar</i> , <i>bajri</i> , maize, pulses and groundnuts
	5	Garden crops—root crops (<i>suran</i> , <i>atalu</i> , etc.), vegetables and fruits, tobacco, irrigated wheat, sugarcane and paddy
II	19.8	Cotton, <i>jowar</i> , wheat, <i>bajri</i> , maize, <i>barto</i> , groundnuts, tobacco (unirrigated) and minor vegetables like brinjal, onions, and garlic on small pieces of land
III	20.4	Cotton, wheat, <i>jowar</i> , <i>bajri</i> , maize, inferior grains, groundnuts and broadcast paddy
IV	22.2	Cotton, wheat, <i>jowar</i> , <i>bajri</i> , maize and broadcast paddy

which enabled them to repay their debts to some extent. Farmers engaged in irrigation cultivation and with an average holding of only five acres could wipe out their debts completely. Those with holdings of 19.8 acres on an average and raising dry crops, but with little vegetable gardening which yielded some income, managed to keep their indebtedness at the pre-war level. As revealed by the analysis of holdings of farmers in classes III and IV, cultivation of dry crops on holdings below 20 acres ceased to bring enough returns to cover the cost of cultivation and expenses on other requirements and as such farmers had to incur debts.

The major rise in the expenditure of the farmer occurred during 1943-4 before which there was a considerable gap between the higher returns he obtained from the sale of his produce on the one hand and the comparatively low expenses on farming and household requirements on the other. As a result of this the farmers could save, effect repayment of their debts and purchase lands largely during 1942-3. Figures of the cost of cultivation and cost of living for 1945 indicate that the rise in them was smaller than in the prices of vegetables and tobacco only.

(u) *Employment of Savings.* It is difficult to state the proportions of the increased earnings utilized towards clearing

their past debts and invested in other channels. It may be stated in general, however, that next to the liquidation of old debts, the farmers employed their additional incomes accruing from the war-time prosperity in the purchase of land. Instances of the purchases of gold, silver, furniture and a few similar other things were only isolated.

Since the beginning of war and till the middle of 1944, 41 farmers examined out of 178 purchased lands, the largest number of purchasers being from the Surat district. In all nine acres of *bagayat*, 20 acres of *kyari*, 154 acres of *jarayat* and 45 acres of grasslands changed ownership. About 16 farmers sold lands. A few of them did so to repay debts. Most of those who disposed of land, however, were non-cultivating owners. The area transferred comprised one acre of *kyari*, 53 acres of *jarayat* and five acres of grasslands. It will be apparent from the figures of areas of various types of lands that were either purchased or sold that the sales and purchases of lands of superior varieties were negligible. Transactions mainly took place in *jarayat* and grasslands. The high prices that could be realized acted as an inducement to numerous land transfers. The table below gives the percentage rise in the prices of various types of soils in different districts.

District	Approximate percentage rise in the land value during 1939-44			
	Black	Goradu	Kyari	Grasslands
Ahmedabad	242	450		
Baroda	125	125		
Broach	150	100		50
Kaira	100	150		
Panch Mahals	200		33 3	
Surat		100 to 200	100 to 125	268

(iii) *Land Improvements.* No new measures of land improvements were undertaken as a result of the favourable financial position. In South Gujarat, however, rice beds require to be deepened periodically to reap good harvests. Similarly in the *Bhal* tract

of Ahmedabad the land that is washed away by rain water has to be levelled again for being kept under the plough. The farmers only put through these and similar absolutely essential improvements to carry on cultivation and expenditure under the head rose in proportion to the increase in the wages of labourers.

WAR AND RURAL LABOUR

Under this head we shall examine the changes in the payment of wages and the modes of payment. The supply of labour and the difficulties arising out of war conditions will also be dealt with. Some reference will also be made to the effects of the war on the day-to-day life of the labourer.

§1 Wages. There has been a marked rise in cash wages during the war years and particularly during 1942-4. This fact is borne out by the following statement of wages paid in different parts of Gujarat in 1938-9, 1942-3 and 1943-4.

District	1938-9		1942-3		1943-4		Percentage rise
	Rs a	Rs a	Rs a	Rs a	Rs a	Rs a	
Ahmedabad	0 3 to 0 4	0 6 to 0 8	0 12 to 1 0				300
Broach	0 4 to 0 5	0 6	0 8 to 1 0				167
Kaira	0 4 to 0 6	0 8 to 0 12	0 14 to 1 8				280
Panch Mahals	0 3 to 0 4	0 6 to 0 8	0 12 to 1 0				300
Surat							
Jowar-cotton tract	0 3 to 0 4	0 6 to 0 8	0 12 to 0 15				290
Irrigated tract round Surat city	0 5 to 0 6	0 8	0 12 to 1 0				155
Southern talukas	0 2 to 0 4	0 6	0 8 to 0 12				233

Rates for picking one maund of *kapas* rose from six annas in the Broach district and eight annas in the *Kanam* tract in 1939 to twelve annas and one rupee respectively in 1944. In Surat the rates for harvesting 100 bundles of grass and bundling 1,000 each weighing one lb when dry went up from one anna and five annas in 1939 to one anna six pies and eight annas in 1943 respectively for *hal* labour. The consolidated rate of Rs 1-8 to Rs 2 for both the operations for casual labour rose to Rs 3-8 to Rs 4 over the same period and further shot up to Rs 8

in 1944 In the south of Surat and Kaira along with the cash wage food was given once in some cases in 1944 which was not the practice before As against this it was a practice in the Bhil tract of the Panch Mahals to give one loaf of bread in the morning in addition to cash, but it was discontinued in 1944. The cash wages paid to the *chakar* in different parts experienced a sympathetic rise The following figures will indicate this

Regions	1938-9	1943-4
	Rs	Rs
<i>Bhil</i> tract of Ahmedabad, Kaira and Panch Mahals	40 to 75	100 to 150
Viramgam taluka of Ahmedabad	40	66
Broach	30	50 to 80
Surat	20 to 26	35

The various allowances to the *chakar* in kind discussed in Chapter VI remained the same, but their cost to the farmer increased From Rs 50 to Rs 75 which used to be the normal expenditure per *chakar* in the years immediately preceding the war, it rose from Rs 200 to Rs 275 in 1943-4 From six annas a day in some cases and Rs 100 to Rs 150 collectively for the year in others the cost of a *hali* for all allowances in kind except the grain wage rose from Re 1 to Rs 1-8 a day and Rs 300 annually in 1943-4 The cost of clothing alone rose from Rs 10 to Rs 15 to Rs 25 to Rs 40 over the same period Not many *halis* appear to have been recruited during years of high prices and so the expenditure on the marriage of the *hali* was not common during the war but isolated instances of this kind reveal an expenditure of about Rs 250 per *hali* for the purpose as against Rs 100 to Rs 150 for the pre-war days

The quantity of grains paid as daily wage was not subject to any change except in a few cases For instance, in Ahmedabad the grain wage was cut down from five to six seers to three to four seers of *bagri* Instead of the normal payment of 12 to 16 seers of wheat for harvesting an acre of wheat crop in the *Bhil* tract and four bundles for harvesting 100 bundles of wheat in Broach, the farmers in 1944 were compelled to part with 20 to 22 seers and five bundles of wheat in order to attract labour

for harvesting. The switch-over from cash wages to wages in kind was widespread in view of the acute food shortage. The situation reached such a stage that in the Panch Mahals and some other places the labourer refused to attend work unless he was assured of wages in kind. The Bhl farmers of the Panch Mahals, however, reported that instead of giving five seers of maize, paddy or *barto* to the labourer as daily wage, they paid cash in 1944.

§2 Supply. During the earlier discussion we pointed out that parts of almost all the districts of Gujarat experience seasonal scarcity of agricultural labour. We also said that as the industries and other alternative trades and occupations both within the region and outside draw away a large number of field workers, certain areas experience a permanent shortage of labour. The war brought further difficulties to the farmers of certain tracts in this regard. The restrictions placed on the movements of foodgrains between different political and administrative boundaries during the war aggravated the problem of labour supply in the western talukas of the Panch Mahals including the intercepting talukdan villages which draw considerable proportion of their supply from the adjoining native states. The *Bhal* tract of Ahmedabad and the cotton-jowar tract of Surat, the former of which attracted labour from both the Kaira district and Kathiawar and the latter from Kathiawar alone, also experienced similar difficulty. Although partial relaxation of the rules eased the situation to some extent in regard to the *Bhal* tract, conditions did not improve materially in the remaining two regions.

§3 Economic Plight. Employment of labour in agriculture varies from six to ten months in the year in the different regions of Gujarat. In spite of the period of idleness ranging from three to six months the labourers were able to maintain themselves from what they earned. What little indebtedness they incurred during normal times was for marriages and such other social purposes. The war and the period of high prices that followed made the problem of maintenance difficult for them, particularly in obtaining food during the acute shortage. We have noticed that the disproportionate rise in the cost of living of the field worker as against the increase in his cash wages and the repercussions of the acute shortage

of foodgrains and the exorbitant prices at which they could be obtained till rationing of important cereals was extended to the rural areas left the life of the field worker disorganized economically. In the southern talukas of Surat, labourers borrow grains from cultivators when they were idle in the monsoon and in return worked for the lenders during harvesting of grass. In view, however, of the procurement operations of the Government in 1943-4 and compulsory levy in 1944-5 farmers were unable to ascertain the quantities that would be demanded of them and discontinued loans in kind to labourers. The discontinuance of this practice put the labourers to great hardships.

§4. Indebtedness. On account of the ignorance of the agricultural labourers it was difficult to obtain information about their indebtedness. The difficulty was enhanced by the practice of borrowing in kind. In respect of labourers who were paid wages in kind and who continued to receive them during the war there was no indebtedness worth the name both before and during the war except for casual loans of a few rupees or small quantities of grains for short periods. Those who received cash wages normally, but could manage to obtain wages in kind during the food crisis, either on account of better bargaining power or out of sympathy of the employer, saved themselves from running into debt. Out of 20 labourers about whom information could be collected four received wages in kind and two more both in kind and cash. They were not required to borrow for maintenance. Out of the remaining 14, four labourers, besides working in the fields cultivated small pieces of land and from these two sources earned enough for livelihood. Of the remaining ten, four were indebted even before the war and the debt aggregated to Rs 145 or about Rs 36 on an average per labourer. By 1944 the figures of their total and average indebtedness rose to Rs 515 and Rs 129 respectively. The remaining six labourers used to earn sufficient cash wages to maintain their families, but found it difficult to carry on even though cash wages rose by 250 to 300 per cent and had to borrow Rs 865 in the aggregate or about Rs 145 each on an average. One of these labourers had savings amounting to Rs 70 in 1939 which was wiped out by the end of 1942-3 and he had to incur, in addition, a debt of Rs 60. In the case of another labourer

of this group, a debt of Rs 55 was increased by April 1943 when he switched over to receiving wages in kind

VILLAGE ARTISANS

As the inquiry related to a number of aspects and covered many classes of rural inhabitants, it was not found possible to examine a large number of artisans. The results of our investigation are, therefore, not exhaustive. During the course of our inquiry about 19 artisans were examined among whom were carpenters, blacksmiths, tailors, barbers, tanners, cobblers, etc., drawn in equal numbers from all the districts of Gujarat.

The artisans' cost of living and the materials required for their crafts rose from 100 to 300 per cent during 1938-9 to 1943-4. Scarcity and high prices of daily requirements, high cost of charcoal, implements and labour and the unavailability of iron and iron tools reduced their business turnover. They could not raise the charge for their services in proportion to the rise in the cost of materials, while their business remained the same or even fell below the pre-war level.

The inevitable outcome of the state of affairs described above was that many artisans were driven into debt. Some increased their debt burdens. Of the 19 artisans studied, nine were in debt in 1938-9 and their total and average burden amounted to Rs 5,130 and Rs 570 respectively. Four artisans managed to reduce their pre-war debt of Rs 3,005 to Rs 500 by 1944. However, it is significant to note that reduction in the debt as a result of increased earnings from the crafts was small. Of Rs 2,505 repaid, Rs 2,205 were earned from farming which the artisans pursued in addition. Two more artisans increased their debt from Rs 800 in 1939 to Rs 1,400 in 1944 mainly to meet the inflated maintenance expenses. One artisan sold ornaments to meet expenses on household and ceremonials and managed to keep his debt at the pre-war level of Rs 150. Another artisan who used to regularly pay interest on his debt of Rs 2,000 normally could not do so on account of the war. Two more artisans who were free from indebtedness borrowed Rs 1,100 in the aggregate, but the bulk of the amount was borrowed for purposes other than maintenance and only Rs 150 were utilized for meeting domestic needs. Out of the eight artisans who stood the impact of the war without adding to their debts or incurring fresh financial obligations, three cultivated some lands.

and the remainder either received payment for their services in grains or carried on small-scale farming. In some cases the women worked as casual labourers or midwives and supplemented the family income

The effects of the war on agriculture in British Gujarat may be summed up as follows .

(a) The farm prices rose by 295 per cent on an average. The cost of cultivation and living rose by 350 and 200 per cent respectively. The prices as well as the cost, however, varied widely with individual items

(b) Farmers of irrigated crops of fruits and vegetables and to some extent of tobacco and big cultivators of dry crops enjoyed war prosperity and could reduce their debt by 65 per cent. The bulk of the small holders, however, were put to great hardships and had to incur more debt. The total indebtedness of this class which comprised over 50 per cent of the indebted farmers increased by 88 per cent. On the whole, however, because of the higher pre-war indebtedness of the bigger farmers, the debt burden decreased by 38 per cent

(c) The numerous defects in procurement operations and fixing the grain levy demands added to the difficulties of farmers. The Growth of Food Crops Act, 1944, disturbed the long-established agricultural practices and affected adversely the returns from land in some cases

(d) The shortage of foodgrains, sugar and kerosene greatly altered the standards and consumption habits of the masses in the rural areas. Introduction of formal rationing eased the situation but in view of the grave shortage of the commodities rationed the rations had to be inadequate

(e) The plight of the rural labourers and the village artisans was worse. The rise in their cost of living exceeded the rise in their wages with the result that many of them had to run into debt

CHAPTER XI

RURAL RECONSTRUCTION

WE have dealt exhaustively with the main features of the rural economy of Gujarat, pointing out the various ills from which Gujarat agriculture and the agriculturist suffer today. The crux of the problem is that agricultural yields have not even been enough to provide a bare maintenance for the tiller of the soil and his family. This has led to frequent borrowings. In the absence of a proper financing agency farmers have to resort to money-lenders who take this opportunity of charging them, through various direct and indirect methods, an extortionate rate of interest. The war brought about some change for the better in regard to the farmers' financial burden but the situation still remains materially unaltered.

Both the Government and some public-spirited bodies and institutions have tried to tackle the rural problems, but they have failed to combat the fundamental maladies of the peasantry. The non-official agencies have mainly concentrated their attention on the spread of literacy both among the children and the adults with a view to bringing enlightenment to the villagers, and improve their social conditions. The Government, in addition to popularizing primary education, attempted to speed up technological progress in agriculture and animal husbandry. These measures, however, were halting and fragmentary. Unable to kindle an enthusiasm among the villagers they proved short-lived and the expenditure of money and energy on them was more or less a waste in the end. As a result of the ideas and ideals that developed during the war, the necessity of a fundamental reorientation of our rural economy has been widely realized and both official and non-official plans have attempted to make provision for these. We shall critically examine these, and see how far they fulfil the needs of Gujarat agriculture.

LAND REFORMS

Of the many land problems of Gujarat land tenures are one of the foremost requiring an early solution. In Chapter V, we have studied double tenures in Gujarat, the economic conditions

of both the cultivators and the estate owners under them and seen how their existence acts as a powerful brake on agricultural progress. Efforts to improve the lot of the tenants-at-will by granting them security of tenure, reasonable rents, etc., and putting a check on the ways of the landlords would be mere patchwork. What is necessary for a rapid progress of the agricultural industry is the abolition of all the double tenures and establishment of a direct link between the Government and the actual tiller of the soil. The landlords themselves would not lose much from this step. Most of the estates are excessively fragmented and bring small returns. On account of mismanagement or heavy encumbrance some of the estates have passed under the management of the Government and the owners get fixed maintenance allowances. In view of the heavy financial commitments of the estate holders their return to the respective interests in the near future is improbable. In addition, to make up for the heavy expenditure on their high standard of living some of the landowners have to follow other avocations. The intermediate interests should be paid compensation for being deprived of their rights in the land. If the finances of the Government do not permit an outright payment of cash compensation, the estate owners may be issued bonds carrying a reasonable rate of interest which may be cancelled in parts out of the revenues of the State. The additional land revenue that will accrue to the State as a result of the reform will facilitate their cancellation.

We have noted in Chapter V that even where peasant proprietorship holds sway, tenancy cultivation has come into prominence and in some places has made serious inroads. Tenancy legislation cannot go far enough to afford complete protection to the tenant cultivators, and here also the right remedy is for the State to purchase the lands from the present owners and thus establish direct relationship between the Government and the cultivator. The method of compensating the landowners here and under the double tenures will be similar. The lands cultivated by tenants are largely owned by non-cultivators who reside in urban areas. The rent that these lands earn for them is not their main source of income as they draw their livelihood for the most part from other occupations they pursue. There are a few big agriculturists who lease out

part of their lands because they are not able to cultivate themselves all the lands they own. Thus they command areas in excess of their requirements. In both cases, therefore, the outright purchase of lands by the Government will not create any serious economic problem for the landowners. The sentimental attachment of the owners of lands both under the double tenures and the ryotwari system would present some difficulty, but a stage has now been reached when there should be no hesitation in legislating in the larger interests of the vast masses of peasantry even at the cost of displeasing or harming the interests of a few. The rights of sale and transfer of lands so taken over should not rest with the cultivators, at least in the first instance, so that the further land reforms which should inevitably follow and to which we shall turn henceforth may be considerably facilitated.

The need for the abolition of the tenancy system has been appreciated both in the People's and the Gandhian plans. Under the People's Plan not only the lands under double tenure holders, but those owned by non-cultivators and others set apart for temples, mosques and similar other charitable purposes in the ryotwari areas will be nationalized. It is also suggested that the interests concerned should be compensated in bonds on a reasonable valuation. The Gandhian Plan is more radical in some respects. It suggests no payment of compensation to those who became landowners owing either to defective law or callous usury. Further, it also advocates that private property in land should also be ended through inheritance taxes or death duties of not less than 50 per cent of the capital value of such lands. After all the lands have come into State possession in this way, the old village tenure system under which the whole village community will be jointly responsible for the payment of revenue is proposed to be revived. A village panchayat will be placed in charge of the management of lands and will distribute them among individual farmers on long leases. The Memorandum of the Government of India on post-war rural reconstruction is lukewarm about the reform of the land system. The fact that in the absence of adequate security of tenure there will be no inducement to effect improvements or increase production is admitted, but it is stated in the same breath that the land tenure system 'sometimes' affects

production. It fights shy of suggesting any improvements itself and throws the responsibility of deciding upon the necessary changes to others by saying that 'it is a matter of Government policy which must be tackled by appropriate authority at an early date, at least in so far as the present system hampers agricultural production' ¹

§1. Consolidation. The establishment of a direct link between the state and the actual tiller of the soil is only one of the series of measures to be put through in rehabilitating agriculture. While discussing land holdings we showed the extent to which fragmentation of holdings has reached and how it has come in the way of efficient farming. The next step, therefore, would be to undertake their consolidation so that each farmer may come into possession of a compact block of land except in so far as varieties in crops and agricultural practices make retention of fragments inevitable. This measure will save the farmer much time, expenditure and inconvenience and add materially to his returns from land. As according to our proposal the lands cultivated by tenants both in the ryotwari and double tenure systems would be bought over by the state, it will be easy to direct their cultivators to agree to the consolidation of holdings. There will, however, be difficulties in bringing the peasant proprietors within the ambit of the scheme. Sentimental attachment of farmers to the lands of their ancestors, and feuds, petty quarrels and squabbles would come in the way of their giving voluntary consent, and official pressure and mild coercion may be essential at times. Most of the plans of reconstruction suggest that persuasion only should be employed to induce farmers to agree to consolidation. It is true that the coercion of a large mass of farmers into consolidating their farms can only do the country harm, but there is no reason why small recalcitrant minorities should be able anywhere to hold up progress. Legislation will, therefore, have to make provision for compelling them to fall in line ². Side by side, suitable changes

¹ *Memorandum on the Development of Agriculture and Animal Husbandry*, Imperial Council of Agricultural Research, p. 36

² The Bombay Prevention of Fragmentation and Consolidation of Holdings Act, 1947, provides for the fixing of standard areas of agricultural lands for different regions and different classes of soils with due regard to the spaces covered by boundaries, fences, etc., and availability of water and lays down that beyond the standards so fixed, the units shall not be partitioned. Under the Act the farmers will not be permitted to sell their fields to persons other than the owners of contiguous plots provided fair prices are offered. In the

in the laws of inheritance will be necessary. Re-partitioning of consolidated holdings will have to be prohibited. This would mean that all the heirs should cultivate their ancestor's lands jointly. For those of the heirs to whom this is not agreeable, the alternative will be to be content with participating in the income from farming in proportion to their shares in the holding, unless the other heirs are willing to purchase the holding outright.

§2 **Co-operation.** The improvement that will be achieved in the farmer's condition through these two measures of reform can very substantially be supplemented if the co-operative movement develops rapidly. Healthy credit co-operation will flourish automatically as the deficit nature of the farmer's economy gradually gives place to a surplus one, and without the latter its rapid progress is not possible. But there are other fields in which co-operation can be of immense use to the farmers even now. Let us take the case of co-operative marketing. In Gujarat co-operative sale societies have achieved some measure of success in respect of cotton only. Even here the membership of the sale societies is largely composed of well-to-do farmers. The movement has not touched the vast majority of peasants with small marketable surpluses. All food and non-food crops except cotton continue to be sold through the usual agencies, and in view of the heavy marketing costs involved the farmers do not get their due share of the consumer's price. Co-operative marketing can improve this situation substantially. The utility of the co-operative movement can be appreciably increased if it is reorganized and expanded on different lines. So far co-operative societies have been started to undertake certain functions exclusively, mainly credit and sale, and the movement has gone ahead on specialized lines. There has, no doubt, been combination of more than one function in the case of some types of societies. For instance, cotton sale societies undertake to finance their members against crops deposited with them. But

alternative, the Government would take over such fields at fair prices. The Act also lays down a detailed procedure to put through consolidation of agriculturists' holdings and contains provisions to deal with unreasonable opposition to the schemes of consolidation. The work of consolidation in an area or a village will be taken up either on the initiative of the landowners or at the instance of the Government. In the beginning the Act will be applied by way of experiment to a few selected places where the work of consolidation can be achieved comparatively smoothly.

usually societies have their scope restricted to one or two activities. It is inconvenient for the farmer to maintain connexions with more than one body, and under the present arrangements the cost of the services of a many-sided co-operative movement to the farmer becomes unduly heavy. What is necessary today is a multi-purpose society which in addition to extending credit to the farmer and helping him to market his produce more profitably would also supply most of his domestic requirements as well as all the materials required by him for cultivation.

§3. Co-operative Farming. Although the measures outlined above will materially improve the economic conditions of the cultivator, as long as the question of uneconomic holdings would remain untackled, our agricultural productivity will ill compare with that in other countries. In Chapter V we have seen that the bulk of the agriculturists have holdings below the minimum size necessary to eke out even a bare living. As the scope of extending cultivation is limited and the average size of a holding is small, it is not possible to redistribute land in such a way as to ensure that each farmer gets an economic holding. An attempt to do so will create a large body of unemployed by throwing many off the land, and our industries will not be able to absorb them for a considerable period. Co-operative farming offers the only alternative. In our previous discussion we have described the different stages of co-operation in cultivation and showed that unless the farmers decide to pool all their resources together and convert their compact but small holdings into a co-operative farm and carry out jointly all the operations connected with farming they will not be able to build up a progressive and prosperous agriculture.

The patterns of co-operative farming we think would be most beneficial to cultivation and that envisaged under the People's Plan are more or less similar. The Tata-Birla Plan also aims to achieve an economic unit of cultivation through co-operative farming, but the pattern has not been clearly defined. *The Memorandum on the Development of Agriculture and Animal Husbandry* only makes mention of the different views held about the efficacy and practicability of consolidation of holdings, co-operative farming and collectivization and states that unless the superiority of one over all the other methods is proved beyond

doubt through experiments it is difficult to recommend any one of the modes of cultivation for universal adoption ¹

Despite little headway done in drawing the farmers into the fold of co-operation voluntarily so far, a belief seems to be still lingering among the framers of most of the plans that the farmers can be persuaded easily to carry on cultivation on co-operative basis. This is too much to hope. The tenant cultivators of lands that will be acquired by the Government from landlords under double tenures and non-cultivating owners and big agriculturists elsewhere should be directed to become members of giant co-operative farms. But the peasant proprietors cannot be so ordered about, and the instrument of persuasion by itself will have no effect on them. Petty squabbles and jealousies have disrupted almost completely the unity and corporate nature of village life, and the necessary background for the success of co-operative farming on a purely voluntary basis does not exist at present. It will be necessary, therefore, to bring pressure on the farmers who want to stay away either directly or indirectly. The best way to make the farmers join co-operative farming societies is to impose comparatively low land and income taxes on co-operative farms and provide them certain other facilities which would not ordinarily be available to individual peasants. These concessions and facilities would tempt many farmers to abandon individual farming and to join the co-operative ventures. This method has been tried in Russia and is reported to have attained a large measure of success.

§4 Technological Progress in Agriculture. The possibilities of extending cultivation to virgin lands being limited in Gujarat, our main hope must lie in the adoption of intensive farming for which there is wide scope. We have examined the extent of the use of better seeds, manures and fertilizers and implements at present and the scope for further progress in these directions and pointed out the lines on which measures which may be taken in regard to them ². All the all-India official and non-official post-war plans are unanimous about the need or intensifying efforts in the fields detailed above. In regard to irrigation cultivation also there is full agreement among the planners that acreage under wet farming should be multiplied

¹ *ibid*, p. 36

² *vide*, Chapter IV

through the provision of irrigation facilities of all types. We would, therefore, refrain from discussing all these here and refer only to the schemes framed by the Government of Bombay to harness the natural water resources of Gujarat for this purpose through the construction of canals. Irrigation projects are proposed from the Tapi, the Mahi, the Watrak and the Meshwa rivers and the Vardala and Patadungri tanks in Kaira and the Panch Mahals respectively. The canals from rivers alone when completed at an estimated cost of Rs 513 lakhs would irrigate about 1½ lakhs of additional acres of agricultural land. The cost of construction of canals from the two tanks would be Rs 12 lakhs. The area that these projects will serve has not been worked out. The preliminaries are well on the way. A beginning is proposed to be made with Surat and the Panch Mahals where plans are being worked out to utilize the waters of the Tapi and the Mahi rivers for irrigation through canals. The electric grid system was to come into operation from 1946 in the Bulsar taluka of Surat. Fourteen villages of the taluka were to enjoy the facilities of electricity in the first instance. In so far as agriculture is concerned, electric current can mainly be used to draw water for irrigation. The scope for the use of electrical energy agriculturally from this point of view is limited as 12 out of the 14 villages to be electrified have no lands under irrigation farming.

DEVELOPMENT OF ROADS

In the course of our study of communications of Gujarat we have noted the inadequacy of road mileage in comparison with the actual needs of the rural areas. Every plan of post-war reconstruction gives an important place to the construction of more and better roads. Even the target fixed by the Nagpur Road Plan falls short of the minimum requirements of Gujarat. The Bombay Government had commenced implementing their road development scheme taluka by taluka in Surat¹ which was one of the three concentrated areas selected for intensive development during the first five years. A layout of rural roads to be built in the Pardi taluka was prepared towards the close of

¹ It was originally proposed to implement the 15-year plan in three stages of five years each. One-third of the province was to be brought under the scheme of concentrated development during each period so that at the end of 15 years it would have been possible to cover the whole province. The Surat district had been selected for intensive planning and development during the first five years. However the plan was altered by the present Government.

the year 1945 but the acquisition of lands and the construction of roads did not commence. An outline of rural roads to be built in Bulsar was drawn up. In this way, presumably, the plan was to cover the whole district.

A great difficulty made its appearance in executing the plan according to schedule. The Government ordered inquiries in the existing conditions in a taluka from each one of the three areas singled out for concentrated development during the first five years. The officials in charge of the work were also asked to apply the principles of the post-war reconstruction plan to the talukas in question and to see how they would fit in with the cost provided in the Bombay Government's Plan. It seems that the latter had greatly under-estimated the total cost. The provincial plan of concentrated development provided Rs 15.17 lakhs for roads per taluka, while the P.W.D. estimates for building roads in accordance with the standard as laid down under the Nagpur Plan came to Rs 50 lakhs. The cost of the national highways that would pass through the taluka had been excluded from calculations in arriving at the estimate. The Government's tentative plan would, therefore, have to be revised either by providing more finance or by reducing the scope of the activities that were to be undertaken.¹

STABILIZATION OF AGRICULTURAL PRICES

The measures of land reforms and improvements and of the reorganization of the co-operative movement so as to give place

¹ The aggregate expenditure during the first five years and the priorities and the allocations fixed under the post-war development plan prepared by the Advisers' Regime have been revised by the present Government. The previous arrangement, under which a few areas were to be selected for concentrated development, has been shelved. The whole province will be treated uniformly for the purposes of reconstruction and development under the revised programme. The total amount to be spent during the first five years has been increased from Rs 60 crores to Rs 86.61 crores or nearly by 50 per cent. The additional expenditure will be spent on those items for which relatively less finance was allotted originally. In certain other cases expenditure proposed originally has been cut down and the money thus saved transferred to other items. In the revised plan primary education occupies the place of pride with an expenditure of Rs 16.83 crores. Communications, which were to receive foremost attention under the old plan, will now take the third place, with the outlay on them reduced from Rs 20 crores to Rs 10.66 crores. In addition, instead of attempting to construct a network of roads in areas singled out for concentrated development, the work now will be limited to constructing village approach roads throughout the province. In regard to irrigation, repairs of existing wells and tanks and the construction of new ones both for drinking water and irrigation will be pushed ahead rapidly. An idea of the order of priority of various rural developmental measures proposed to be undertaken and the outlays on

to multi-purpose societies instead of the specialized societies of today will increase in a large measure the farmer's income. But it is equally essential that the farmer's income should be steady. The undue fluctuations in agricultural prices in the past have meant great changes in the farmer's income thus greatly aggravating the farmer's sense of helplessness and harming the cause of agricultural improvements.¹ As Sir Roger Thomas put it, next to rain price changes have been the greatest enemies of the Indian farmer.² For fundamental improvements in them under the original and revised plans can be had from the following

(In crores of rupees)

Item	Original outlay	Present outlay	Percentage to total expenditure in the original plan	Percentage to total expenditure in the revised plan
Education		16.83	6.6	19.4
Agriculture	15.5	16.03	25.8	18.5
Roads	20.0	10.66	33.3	12.3
Health and Medicine	3.5	10.04	0.4	11.6
Irrigation	3.5	9.50	0.4	10.9
Electric Grid		8.4		0.9
Cottage Industries and Fisheries		1.20		0.1

¹ The following passage from the evidence of one of the witnesses before the Famine Inquiry Commission illustrates the importance of price factor in agriculture.

'After four years of strenuous efforts, the (co-operative) movement in one district was pulsating with life, the approach has been mainly agricultural—the provision of good seed and water facilities. The people who had avoided the co-operatives were clamouring for them to be started in their villages and we were refusing applications every day. Then came the crash in prices. The work of years was undone in as many weeks. The old feeling of helplessness and hopelessness returned, it was no use fighting fate, all this talk of increased production was but a device to bring down prices. The collapse was—or at least appeared to us then to be—complete. Realizing that we had tried to build an arch and neglected the keystone, we took up the question of minimum price for sugarcane. After years of struggle, that became an accomplished fact. On this basis, utilizing the earlier foundations we built again, the co-operative cane marketing societies are the finest example of co-operative effort and success in India. In these societies we linked up credit with farming on the one hand and marketing on the other. But the whole structure will collapse if there were no minimum prices for cane. Given price stability, much can be done by linking up credit, agricultural improvements and marketing so as to supply the facilities needed for agriculture, whether water or manure or seed or machinery or organization. Without it we are building on sand.' *Famine Inquiry Commission, Final Report (1945)*, p. 285.

² *Famine Inquiry Commission, Final Report (1945)*, p. 482.

agriculture stabilization of agricultural prices at a reasonable level is highly essential. The price stabilization of all crops, however, may not be possible. In the case of some crops a large portion of the produce is exported to foreign countries. The percentages of exports of a few such crops to their total production given below will make this clear.

Crop	Percentage ¹
Cotton, raw	52.8
Jute, raw	62.7
Linseed	71.5
Groundnuts	27.6

In these cases, the world demand and supply situations determine prices. Any attempt, therefore, to stabilize their prices at a level higher than this would rob us of the competitive advantage in world markets and reduce our volume of international trade to that extent. Or in the alternative, it might mean subsidies on exports like the American export subsidy on cotton which India can ill afford. Thus fixation of minimum prices of these primary products will have to depend on international action. Moreover, these primary products serve as raw materials for many industries. To the extent to which they enter into the cost of production of industries an unduly high level of prices will retard industrial advance. It may, however, be possible in cases of great need to keep the prices of these crops in India below their world level by suitable export controls.

In regard to food crops the position is different. They are cultivated by a very large number of farmers and do not enter export trade. On the whole, India is a net importer of food-grains and will be more so in future. It would, therefore, be possible to stabilize their prices at a reasonable level by proper trade controls and by import on state account only. Furthermore, cultivation of food crops predominates in Indian agriculture as over 80 per cent of the cultivated area is under them. Stabilization of prices of these crops would, therefore, substantially benefit the Indian cultivator. A disparity might in all probability arise between the prices of crops like jute, cotton, groundnuts, tobacco, etc., largely determined by forces operating in world markets and those of food crops which would be fixed statutorily. A small difference between the two

¹ *Review of the Trade of India, 1938-9*, p. 239

sets of prices in favour of the latter would, no doubt, be welcome as it would bring about an expansion in our food production which today falls short of the country's requirements. Some further increase in our food supplies will also be necessary from time to time to feed the increasing population. But if a wide disparity were to prevail between the prices of non-food and food crops a switch-over from the cultivation of the former to the latter on a large scale might follow. The only way for the state would be crop regulation on an all-India plane, which has not been found possible so far and might not be practicable in the near future. Care would, therefore, have to be taken to see that there is no such great disparity between the prices of these two kinds of crops.

Before embarking on a policy of price stabilization, many other questions will have to be decided. Whether there should be uniform prices for the whole country or different sets of them for different regions, whether it will be desirable to have fixed prices of different products or to allow them, instead, to fluctuate within narrow limits, are only two of the many intricate problems that will have to be carefully gone into. To see that the prices are kept at the determined figures, Government will have to be ready to enter the markets when necessary. The Government of India have already appointed a special committee for the purpose and it is hoped they will be able to evolve a suitable policy in regard to agricultural prices.¹

¹ The Prices Sub-committee of the Policy Committee on Agriculture, Forestry and Fisheries which was appointed in February 1945 submitted its report to the Government in July 1946. The Sub-committee is understood to have recommended maximum and minimum prices both for different agricultural products and for different regions, determined on the basis of the prices of goods and services entering into the costs of production and living of the farmer, these in turn being based on the index number of prices of certain commodities during 1925-9. The close relationship between agricultural and non-agricultural prices, domestic and international prices and prices of raw materials and finished goods has been recognized and it has been stated that in case it is necessary to reduce non-agricultural prices, agricultural prices may also be scaled down, subject to the maximum cut of 12½ per cent of current prices. The Sub-committee also proposes that Government should enter the markets to support the prices so fixed if necessary. Rice, wheat, *jowar* and *bayri* among food crops and cotton, jute and sugarcane among non-food crops should be the commodities selected for the purposes of such operations in the first instance. The creation of a special machinery to collect data and formulate and enforce price policy has also been suggested. To improve returns from land the need for land reforms and other agricultural improvements has been emphasized.

A policy of price stabilization is by no means free from danger. There are other interests besides that of the farmer which have to be given due consideration in a policy of price fixing. In addition to farmers there are other groups like the artisans and landless labourers in the villages. There are also vast masses of urban consumers of agricultural produce whose earnings are limited. Care should, therefore, be exercised to fix such prices of food crops as would be fair to the farmers and the consumers of their produce alike. Moreover, a price fixing policy which does not take into account the world trends in regard to agriculture might result in the Indian farmer falling out of line with world agricultural improvements. This is a possibility which must be carefully guarded against. The price stabilization authority will have always to bear in mind that the main purpose of stabilization is to facilitate agricultural reforms and lay the basis for a greater incentive to improvements. It is by the fulfilment of these needs that the success of the price stabilization policy will be judged. Strange as it may sound, the price stabilization authorities can congratulate themselves on their work only if they are able to lower prices in the long run without lowering the farmer's income.

DISTRIBUTION OF INCOME

It is common knowledge that the rural community is divided into various groups mainly hereditary and traditional. The non-cultivating landlords, money-lenders, village dealers, peasant proprietors cultivating either with domestic or hired labour, part owners and part tenant cultivators, pure tenant cultivators, village artisans and landless labourers are the important groups found in the villages. These are only the broad divisions. There are also other intermediate groups lying midway between any two of them. The returns from land and allied industries are unequally distributed as between these groups. While some like the landlords share incomes from land more than in proportion to their contribution in earning them, others like the landless labourers get not even sufficient for maintenance and live on starvation level. It is necessary to bring about an equitable distribution both of existing incomes as well as higher returns from land that will accrue as a result of the reorganization of agriculture. Some of the disparities will disappear automatically as the measures we have suggested begin to take effect.

The institution of landlordism will cease to exist and with it the exactions through rent and other forms. With the consolidation of holdings and adoption of co-operative farming subsequently, the incomes from farming would come to be shared more equitably among all the participants. As the co-operative movement develops, the institution of money-lending would become redundant and die out. During the transitional period control on the ways of the money-lenders and the rates of interest they can charge would prevent them from taking a large slice of agricultural incomes.

The problem of the rural artisans and landless labourers would, however, remain. Those artisans and labourers who have some agricultural lands will become members of co-operative farming societies and will improve their incomes. But many artisans largely rely on their crafts for livelihood and the labourers on field work. At present they are paid poorly for their work. On account of the nature of the crafts pursued it is difficult to organize most of the village artisans like carpenters, tanners, etc., into co-operative societies. The raw materials the artisans require are mostly available locally. Similarly, their articles are also mainly intended for local consumption. It will, therefore, be necessary to fix reasonable rates of wages for them consistent with their minimum requirements on the one hand and the incomes of the farmers whom they mainly serve on the other. It will not be possible to fix minimum wages for them at once, but only after the schemes, we have envisaged above, come into operation and returns from cultivation improve substantially. Improvement in housing conditions and better medical and recreational facilities that will be made available under planning would also substantially add to the real wages of these two economically lowest rural groups.¹

During our study of the problem of population in relation to agriculture we have seen that the pressure of population on land is excessive and that the situation is getting more acute with the passage of time. Though the land and agricultural reforms we have outlined above combined with co-operative farming may enable more people to live on land, many would be greatly under-employed. This would be a waste of human energy which a

¹ An Act was passed by the Dominion Parliament in 1948 requiring the Provincial Governments to fix minimum wages of agricultural labourers within three years.

poor country like ours can ill afford. To remedy this state of affairs, the numbers that depend on agriculture for livelihood should be substantially reduced. This can be achieved by diverting the surplus agricultural population to other occupations, especially subsidiary, and in small, medium and large scale industries. For want of proper development of industries in the country such avenues of alternative employment are extremely limited today. It is thus clear that a rapid industrialization of the country is highly essential. If measures of agricultural improvements are to proceed unhampered it is of supreme importance that the development of industries should proceed side by side. Care should be taken, at the same time, to see that the rural areas are not drained of their efficient young men by industries as today.¹

These measures of agricultural reconstruction that we have outlined can be implemented only if the Government play their part properly. For some of them Government legislation will be essential, for almost all of them Government encouragement, guidance and financial help will be primary prerequisites. Above all, the Administration will have to master the difficult art of carrying the people with them, for no rural reconstruction can ensue from Government measures alone. The peasants' inertia is perhaps the most powerful obstacle to any movement of agrarian reform. Its removal will require not only the full husbanding of the entire Governmental machinery, but also the skill of the Governmental personnel to persuade and enthuse the people. Hitherto the policy of the Government in this regard has been lukewarm. This attitude will have to be given up. No planning is possible without a knowledge of the economic resources. To proceed with any plan of reconstruction without these basic data in hand would mean taking a leap in the dark. So far even such important preliminaries as the extent of 'culturable waste' that can be cultivated have not been given any thought to. It is highly essential, therefore, that the Government should carry out a comprehensive survey of the economic resources of the region and thus give a correct start to development and planning. The State will also have to shoulder the burden of laying down a concrete all-sided

¹ *Report of the Agricultural Finance Sub-Committee of the Policy Committee on Agriculture, Forestry and Fisheries*, pp. 15-16.

agricultural plan including the production targets and of seeing that it is fully carried out

The Government have been dealing with agriculture through the Revenue, Agriculture, Co-operative, Rural Reconstruction and Education departments. All of them have been working so far as it were in watertight compartments. There is no adequate arrangement to mutually exchange information or to co-ordinate their activities, with the result that considerable delays and waste of efforts occur. The work of all the departments connected with agriculture and allied matters, therefore, should be co-ordinated. That alone can enable a successful attack on the giant enemies of mankind that freely stalk our land today—poverty, disease, squalor and ignorance.

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